

HANFORD HEALTH EFFECTS SUBCOMMITTEE MEETING

FINAL AS OF MAY 21, 1999

THURSDAY, FEBRUARY 25, 1999

FRIDAY, FEBRUARY 26, 1999

KENNEWICK, WASHINGTON

EXECUTIVE SECRETARY

Leslie Campbell

CHAIR

Lynne Stembridge

COMMITTEE MEMBERS

Henry Anderson, M.D.

Delbert Barth, Ph.D.

Jude Van Buren, Dr. PH

Wilfred "Buck" Cameron

Daniel Carter

Herman Cember, Ph.D.

Glyn Caldwell, M.D. (Via speaker phone, 26th only)

Darrell Fisher, Ph.D.

Ricardo Garcia

Larry Jecha, Ph.D.

D.J. Jin

Judith Jurji

Louise Kaplan, Ph.D.

Linda Keir

Marlene Nesary

Trisha Pritikin, L.D. (Attended 25th only)

Wilber L. Slockish, Jr.

Armando Trenti

Beverly Walker

Marcia Wood

GOVERNMENTAL TRIBAL LIAISONS

Preston Kinne, Kootenai Tribe of Idaho

Rachel Moses, Colville Confederate Tribes

John Stanfill, Nez Perce

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ATTENDANCE

GOVERNMENTAL STATE LIAISONS

Ellen Haars, Washington
Laura Chenet-Leonard, Oregon

TRIBAL SERVICE PROGRAM

Martha Holliday, HHIN

AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

Michael Brooks
Paul Charp, NCEH
Rita Ford
Paul Garbe, Ph.D. (Via speaker phone, 26th only)
Sandy Isaacs
Marilyn Palmer
Cate McKinney
Robert Spengler, Sc.D.
Greg Thomas, RPH MPH

CENTERS FOR DISEASE CONTROL AND PREVENTION

Steven Ahrenholz, Ph.D., NIOSH
Van Chase, NCEH
Michael Donnelly, NCEH
Travis Kubale, NIOSH
Judy Qualters, NCEH

AUDIENCE MEMBERS

Marty Bensky
Roger Briggs, DOE-Richland
Bob Brawdy
Norm Buske, NWFA
Milton Campbell
Annette Carry, Tri-City Herald
Tim Connor, NEEF (Attended 25th only)
Owen Divine, Ph.D.
Sherry Katherine Dunn, HHIN
Greg deBruler, NURHA/CRU
Cindy Harris
Marie McDonald McNamara
Gai Oglesbee
Jeanie Rolehn, DOE
Jerome Schnell, Oregon Health Division

Jim Smith
Kay Sutherland
Tim Takaro (Attended 26th only)
Jean Thompson
Brent Walton

AGENDA

THURSDAY, FEBRUARY 25, 1999

Announcements and Agenda Review

Review and Approve:

December Meeting Transcript, Draft Advice Log and December Action Items List

By: Lynne Stembridge

ICHHP Update, Summary of ICHHP Meeting

By: Rachel Moses

Briefing on Local Media Coverage of Hanford-Related Issues

By: Marlene Nesary

Agency Responses to HHES Advice and Recommendations, Funding

By: Michael Donnelly, NCEH

By: Robert Spengler, Sc.D., ATSDR

By: Travis Kubale, NIOSH

By: Steven Ahrenholz, Ph.D, NIOSH

Panel Presentation/Discussion:

National Cancer Institute Nevada Test Site Fallout Study, Institute of Medicine Review and Reports, ACERER Recommendations

By: Tim Connor

Presentation/Discussion:

Implication for Proposed Hanford Medical Monitoring Program

By: Robert Spengler, Sc.D.

PUBLIC COMMENT

Presentation/Discussion:

Results of the Hanford Thyroid Disease Study, possible next steps, HHES Future Involvement

By: Mike Donnelly

By: Paul Garbe, Ph.D. (Via speaker phone)

PUBLIC COMMENT

AGENDA

FRIDAY, DECEMBER 11, 1998

Presentation/Discussion Two New Worker Health Surveillance Programs

By: Tim Takaro

By: Buck Cameron

Public Health Assessments Work Group Report

By: Del Barth, Ph.D.

Outreach Work Group Report

By: Marcia Wood

Studies Workgroup Report

By: Louise Kaplan, Ph.D.

PUBLIC COMMENT

Public Health Assessments Workgroup Report

By: Judith Jurji

HHES Membership Discussion, Nomination Format Final Subcommittee Housekeeping

Final Subcommittee Business/Housekeeping

KENNEWICK, WASHINGTON, THURSDAY, FEBRUARY 25, 1999

MS. STEMBRIDGE: Good morning. Can you hear me back there? Good morning and welcome to this meeting of the Hanford Health Effects Subcommittee.

First, I have a couple of announcements. For those of you in the audience who have not been to the Hanford Health Effects Subcommittee, and for the benefit of some of our new members who also have not been to such a meeting, we are an extraordinarily diverse subcommittee. And there is not a wallflower among us, so do not be alarmed if there is spirited back and forth discussion. We do have bounds of propriety and treat each other with professional and personal respect. But there are wide disagreements about Hanford and radiation health effects across the spectrum of this subcommittee. That is why we are here, so please do not be alarmed if we do not hum along at a monotone. We have never done that. I do not expect this meeting will be any exception.

I have also been asked to announce that Linda Keir has put on the back literature table monographs from John Goldsmith's presentation which was in Portland a year or so ago. And she has been able to secure those monographs. And they are on the back table if you would like to have one of those.

Are there any other announcements before we get started with the business of the day? All right. Then we will move into our round of introductions. We will go around the table and introduce the subcommittee members first and then provide an opportunity for members of the public to stand and introduce yourselves and your affiliations if you would, please, as well.

I'm Lynne Stemberge. I'm the chair of this subcommittee. I am the director of the Hanford Education Action League, which is a citizens' watchdog group based in Spokane.

As many of you know, I'm leaving that position as of the end of March. And I will be resigning from the subcommittee effective the first of August. I am going back to college full time to figure out what I want to be when I grow up. So I'm taking a little vacation from nuclear waste. And we will have time later on in this meeting and at our subsequent two meetings to give some advice to the agency and have some deliberations on how we will effect the transition to a new chair.

MS. MOSES: I'm Rachel Moses, the chairperson of the Intertribal Council on Hanford Health Effects and also a member of the Colville tribe in Washington State.

I'm very surprised at Lynne's announcement, and I will miss her as chairperson of this committee. And she has done an excellent job. And thank you for educating me along the way, Lynne.

DR. FISHER: I'm Darrell Fisher. I'm a new member on this committee. Thank you, Marilyn and Leslie, for facilitating the paperwork.

I'm a senior scientists at Pacific Northwest National Laboratory where I specialize in the health effects of radioactive materials in the body. And I also work in the area of medical physics and the development of new radioactive drugs for medicine.

MR. STANFILL: I'm John Stanfill with the Nez Perce Tribe, environmental health specialist with the Department of Environmental Restoration and Waste Management.

MS. CHENET-LEONARD: I'm Laura Chenet-Leonard, the project coordinator for the Hanford Health Information Network and for the Hanford Individual Dose Assessment Project out of the state health department in Portland, Oregon.

MR. JIN: I'm D.J. Jin, representing the Yakama Nation. I work in the environmental program office.

MS. HAARS: Ellen Haars from the Washington State Department of Health.

MS. WOOD: Marcia Wood from the Hanford Health Effects Subcommittee. I'm from Wenatchee, Washington, but grew up in the Soap Lake/Ephrata area and am basically a downwind-area person.

MS. WALKER: I'm Beverley Walker. I lived in Pasco, Washington, from 1945 to 1963. I live in Portland, Oregon, now.

MR. TRENTI: Armondo Trenti, representing the Hanford Atomic Metal Trades Union. And, Lynne, you've done a heck of a job, and we're surely going to miss you.

MS. NESARY: I'm Marlene Nesary. I grew up in Kennewick. I came back here after almost 30 years away a couple years ago. I'm a writer, journalist. And my current day job is with the welfare office in Kennewick.

MS. KEIR: I'm Linda Keir, downwinder from eastern Oregon.

DR. KAPLAN: I'm Louise Kaplan. I'm an assistant professor at Pacific Lutheran University in the school of nursing. And I've done research on Hanford for about 10 years now and worked for the

Hanford Health Information Network at one time.

MS. JURJI: I'm Judith Jurji with the Hanford Downwinders Coalition. I have been an activist on behalf of downwinders for 11 years now and grew up in the Tri-Cities, where my family still lives here and works at Hanford. I currently reside in Seattle.

DR. JECHA: I'm Larry Jecha, a new member on the Hanford Health Effects Subcommittee. I'm the health officer from Benton/Franklin Health Department.

MR. GARCIA: I'm Ricardo Garcia, general manager of public radio KDNA, Spanish language radio, and also representing the interest of the Spanish-speaking community that was here in the early '40s and their descendants.

MR. CARTER: I'm Dan Carter, owner of Genei Service Company here in the Tri-Cities area, a former Hanford worker.

MR. CAMERON: Buck Cameron with the United Brotherhood of Carpenters. We do training, research, and medical screening across the DOE complex, among other activities.

MR. BARTH: I'm Del Barth, professor emeritus at the University of Nevada, Las Vegas, in the environmental studies department and also a former member of the Technical Steering Panel.

DR. ANDERSON: I'm Dr. Henry Anderson, chief medical officer with the Wisconsin Division of Public Health.

MS. CAMPBELL: Leslie Campbell, Agency for Toxic Substance and Disease Registry. I'm the designated federal official or executive secretary for this FACA committee.

MS. STEMBRIDGE: All right. Let's start with Norm and we will just go around the audience as well.

MR. BUSKE: Norm Buske, Nuclear Weapons Free America.

MR. THOMAS: I'm Greg Thomas. I'm with ATSDR's Region 10 office in Seattle, Washington.

DR. SPENGLER: Good morning. I'm Bob Spengler, associate administrator of science at ATSDR in Atlanta.

MS. DUNN: I'm Sherry Katherine Dunn, Hanford Health Information Network, Oregon.

MR. KUBALE: I'm Travis Kubale the Health Related Energy Research Branch for the National Occupational Safety and Health.

DR. AHRENHOLZ: I'm Steven Ahrenholz with the National Institute for Occupational Safety and Health-Related Research Branch, Cincinnati research.

MR. CHARP: Paul Chorp, ATSDR Atlanta.

MS. ISAACS: Sandy Isaacs, ATSDR.

MS. CHASE: I'm Van Chase with Radiation Studies Branch, Seattle.

MR. DONNELLY: Mike Donnelly, Radiation Studies Branch, Atlanta, CDC.

MR. SMITH: Jim Smith, Radiation Studies Branch, CDC, in Atlanta.

DR. DEVINE: I'm Owen Divine. I'm with the Radiation Studies Branch in Atlanta.

MR. WALTON: Brent Walton, attorney for Cressman and Burgess.

DR. SCHNELL: I'm Jerry Schnell. I work at the Oregon Health Sciences University in Portland.

MR. CONNOR: I'm Tim Connor. I'm with the Northwest Environmental Education Foundation out of Spokane.

MS. MCKINNEY: Cate McKinney, ATSDR community involvement.

MS. HOLLIDAY: Martha Holliday, HHIN Tribal Service Program.

MS. ROLEHN: Jeanie Rolehn, Department of Energy, Office of Independent Oversight.

MR. BRIGGS: Roger Briggs, office of Environment Safety and Health, Department of Energy, Richland Operations.

MR. BENSKY: Marty Bensky, I'm an alternate public-at-large member at the Hanford Advisory Board.

MR. BROOKS: Michael Brooks, ATSDR, Atlanta.

MS. FORD: Rita Ford, ATSDR Atlanta.

MS. STEMBRIDGE: Wilber, would you like to introduce yourself briefly, you and Trisha. We missed you when we went around.

MR. SLOCKISH: Wilber Slockish, Klickitat Tribes.

MS. PRITIKIN: I'm Trisha Pritikin. I'm an intellectual property attorney and an occupational therapist. And I was born and raised here in Richland -- I mean -- this is not Richland. I was born and raised near here, Richland.

MS. STEMBRIDGE: All right. Let's move on to a quick agenda review. This is our first full two-day meeting since almost a year ago, since April of 1998. So we have a very, very full agenda.

As you will notice, we have abbreviated work group sessions, and that was done so that we could have a sizable -- relatively large chunk of time immediately after lunch today for a discussion on the draft results of the Hanford Thyroid Disease Study.

So I would ask the people at this time to take a look at this agenda and see if there are things which should be reflected here which are not. If there is something here that looks amiss, if so, do speak out.

MS. PRITIKIN: This is just a repeat of a request I made a little earlier to have extended public comment after the discussion on the Hanford Thyroid Disease Study added into the agenda if we could.

MS. STEMBRIDGE: How do folks feel about taking a half an hour out of the proposed work group time to provide public comment at the end of that presentation? Does that square with folks? Okay. Then we will do it like that.

Anything else on the agenda? All right. Then we will move ahead with a few housekeeping items of business. Each of you should have received a draft of our December meeting transcript, draft advice log and the action item list for your review. Many of you, perhaps, have already submitted your corrections to Nancy Schwartz. At this time I would like to see if there are any additional outstanding major substantive corrections or additions to that meeting transcript. If there are not -- Louise.

DR. KAPLAN: I have a few. Should I give it to her?

MS. STEMBRIDGE: Yes, please. If you just have minor corrections, please write them down and forward them to Nancy.

All right. Hearing no major corrections or additions, we will move forward with that meeting transcript as approved.

Let us now turn to an update on the Intertribal Council on Hanford health projects and hear an update on their meeting which took place yesterday. Rachel.

MS. MOSES: Thank you. We received notice from -- or I should say word from ATSDR on the funding situation of the nine cooperative agreements that we have. And Leslie Campbell announced that we would be getting approximately 50,000 for each tribe. Each tribe has, basically, three main components of the cooperative agreement and one is to identify a point of contact so that the agency knows who will be facilitating the project, another one is to complete a needs assessment.

DR. KAPLAN: Another one is to complete a work plan for year two. Actually, this is the beginning of year two of a five-year cooperative agreement. We have been on a no-cost extension for -- I kind of lost track of time, probably a year and a half, but we will begin our second year of the cooperative agreement April 1st. And our grant applications are due by the end of March, which gives us a couple days here to get things together and in to the agency, but we're really happy to have received this amount. We have been kind of on hold for so many months waiting to see if we were going to have funds to continue our operations at each of the tribes.

We had a quorum yesterday, which was really pleasing, and we had a lot of different people, I should say, from each of the tribes. We're kind of in a transition state ourselves. And at the next meeting, we will be going through the election of officers again. That happens every two years according to our bylaws. And then beyond that we hope to work with Leslie and come up with what each of the tribes will do from years three through five. Keep in mind this is a five-year cooperative agreement. But each year I kind of -- it's hard to say what the situation of funds will be like, given that we waited for a year and a half or whatever for these funds to be released. It remains uncertain what the funding situation will be beyond this year and what amount and then for out years it's -- you know, you're getting into the year 2000 and probably rightfully so, it's hard to say what will come of these beyond the year 2000.

We had a number of discussions entailing a lot of things going on. We spent most of the day hearing presentations from various officials. We heard from NIOSH and kind of they're looking for input into how they can work with the tribes and maybe fund or work with us in some capacity beyond the cooperative agreements or in concert with the cooperative agreements.

We also heard from Bob Spengler on the Medical Monitoring Program and the revised program as it is -- as it has been revised, given the Hanford Thyroid Disease Study release. The Medical Monitoring Program was revised after the study was released. And he went through the revisions with us.

We also talked with CDC officials. They weren't on the agenda to give a presentation about the evaluation of the subcommittees, but there is a movement from their office to evaluate the subcommittees and then, I guess, to come up with a national research agenda beyond the evaluation.

We were to identify a representative of the Intertribal Council that would sit with them and go through the evaluation process, which I guess would entail a series of phone calls and meetings, I would imagine.

My suggestions -- the Intertribal Council really never got to the point of identifying a representative that would work with the evaluation team or people that will be doing this evaluation of the subcommittees. But I recommended that once a person is identified, that I would like to see the evaluation go both ways. If the subcommittees are going to be evaluated, I have a strong preference or feeling that the governmental liaisons that work with the subcommittees and facilitate whatever they do with these committees be evaluated by the subcommittees as well.

It seems to me whatever you're evaluating the subcommittees for, I'm sure there is a reason, but you can only get effectiveness if both sides of the table are evaluated. I think the government officials should be evaluated in concert with the subcommittees in this evaluation process. If no one from the Intertribal Council has a strong preference to be involved in the evaluation process, I will take it upon myself to volunteer to be involved with that process because I kind of have some strong feelings about the outcome of this evaluation.

We heard from Mike Donnelly on the Columbia River study and the proposed tribal Hanford Thyroid Disease Study and the fact that it was not feasible. We really didn't come up with any other type of studies that CDC could pursue. I told them given the fact that we only had his presentation, really, to think about, it would be probably best to really give the tribes some time to take back what we had and maybe at the next meeting come back and have a better discussion. But given that we had so much to deal with yesterday, it was really hard to focus on any one particular aspect of the agenda. But we did have a lot of time to discuss the Hanford Thyroid Disease Study and the results.

And I requested that we have time separate from the rest of the audience and the rest of the representatives sitting at the table, so according to the bylaws, as I need to point out to Leslie, we do have the right to call a special meeting. I chose to pursue that right then, and I called a special meeting of the tribes. Those that attended were pretty much in agreement that the tribes need to have a different way of being represented with the agency at these meetings.

In order to have a more productive meeting for us, we need to have our own tribal concerns and council business dealt with early on in the day instead of moved so far down in the afternoon that we hear presentations from all these people, but by the afternoon, our own business has to be taken care of and people are walking out the door. So from here on out, we're going to recommend that we spend at least an hour to two, one to two hours discussing our own business. And if we choose to have a session where it's just the tribes there, then it's our right to do that. So we're going to have a different agenda. We are going to recommend that we, as tribes, be brought together anywhere from 8:30 to 10:00 to go through our agenda and what we want from these cooperative agreements.

The first year of our funding was 16,000. And that was probably spent early on for most tribes,

but some tribes have been able to extend them out hoping that they would get funded to continue on with their projects.

But beyond that, we see the need to have people invited to our -- to sit at the table with us that are going to provide input for the tribes. Up to this point, after talking to some of the tribes, I don't feel that that input has been provided because they are asking me questions that I would assume, you know, a representative from either CDC or ATSDR would have been able to answer. So we have -- they have a lot of unaddressed issues. And the only way I believe that these tribes can really effectively work these cooperative agreements is to have some time early on in the morning to discuss what we need to do and then listen to presentations that are pertinent to our cooperative agreements.

The sense was that we've had -- and it's true, we have always had the parallel agendas of ATSDR and CDC in our meetings and then now we have NIOSH sitting in as well. It seems like the representatives from those three agencies are always on the agendas.

I have to explain to people that the tribes, in the cooperative agreements, that the agency that is funding this is ATSDR. It's not NIOSH, and it's not CDC. So the question is, "Well, why do we have to spend so much time listening to their presentations?" I kind of had that question myself. But we have to have input from them, but we also have to have time to really work among ourselves to really get what we need out of these cooperative agreements down on paper, because at this point in time, to me it seems like it's been a planning, more or less a planning, two and a half, three years, trying to get these cooperative agreements going. Now that we have funding for a second year, it is almost, to me, critical that we get a good start early on and begin planning how we're going to use these funds for this next year to our benefit. And, hopefully, beyond that we will have more funds to talk about.

Beyond that, we really didn't have anything else that -- unless I left anything out. I invite other members of the council to include anything that I may not have included in my presentation. But thank you for your time.

MS. STEMBRIDGE: Any other input from members from the tribal council?
Questions from the subcommittee?

MS. PRITIKIN: First, I wanted to thank Rachel for her very meaningful input, and then I wanted to clarify a question, please, as we proceed. I'm still under a nonwaived conflict of interest with recusal requirements. Every time we talk about funding, I'm very, very tired today and don't feel like running in and out of room, so if you could assist me, please, by just putting on the record that I've recused myself when we approach those discussions, it would help me a lot.

MS. CAMPBELL: Actually -- is Marilyn in the room? My understanding was that we have gotten a waiver on all of your conflicts and that is not an issue now.

MS. PRITIKIN: Do you have that in writing some place?

MS. CAMPBELL: Yes.

MS. PRITIKIN: Could I see it? I don't -- I appreciate what you're saying, but I need to see it, please, in order to feel comfortable since these are criminal conflicts of interest provisions. I appreciate that we have obtained a waiver.

But I have also been dealing with my mother dying, so I really haven't been able to read everything that has come in the door last week, so if there is something that I should have seen in this last week, I may not have been able to concentrate.

What do you recommend that I do under the circumstances?

MS. CAMPBELL: I don't consider what Rachel is just presenting as being a conflict because it was not discussing how we were going to get funds or the issue of whether funds were there. She was discussing the fact the funds have been awarded or are forthcoming. So, to me, that is not a conflict on what you're talking about, Trisha.

Again, I don't know if -- Marilyn, do you happen to have the waiver information on Trisha's conflict with us?

MS. PALMER: No. It's at the office.

MS. CAMPBELL: But we did get verification that the waivers had been completed.

MS. PALMER: Yes. The waivers are complete, and they were sending it off for signature.

MS. PRITIKIN: I'm going to rely on that assurance, then, and participate in all discussions today. On the record, I'm going to rely on that assurance. And I appreciate it also because now I don't have to disrupt everybody, but thank you. I wanted to make sure that was on the record, and I will rely to that even though I haven't seen it. Thanks.

MS. STEMBRIDGE: Any questions for Rachel or the Intertribal Council?

MS. MOSES: Lynne, I forget to mention that ATSDR has now -- I don't want to say opened. I guess established the Tribal Affairs Office. And Leslie is part of the office, Christine Benally, and a vacant slot. Linda Wright has done a medical retirement. And I feel that that's a really important step for ATSDR to have taken because the community tribal subcommittee and the board of scientific counselors met with Barry Johnson prior to his retirement and requested that we have some such office established. And so he was very instrumental in establishing that office. And Peter McCumsky, the acting director, seems very instrumental in working with the tribes on continuing what Barry Johnson initiated with respect to the tribal office.

And I would like to, you know, really thank that agency for that because we have tribes that call the agency and hopefully this office can facilitate some of the questions that tribes have about the agency and how they might best access the resources that the agency has. So I would just like to say thank you for establishing the office.

MS. STEMBRIDGE: Okay. Anything else?
Del.

DR. BARTH: I really shouldn't speak for ATSDR, but what I would like to suggest, Rachel, is that there is a very good reason for the tribal groups to stay aware of what is going on in CDC and in NIOSH so you do not just duplicate efforts that are already ongoing. And, particularly CDC, with its completion of the HEDR Project and the Columbia River new model, in particular, is going to be very important to the Native Americans. And I believe you do need to remain abreast of what is taking place there and also understand what NIOSH is doing so you can see where you might be able to develop a capability that will help it into a totally integrated problem that is being addressed by all the different agencies.

MS. MOSES: I appreciate that, Del. As I mentioned, we will have the agency presentations after our own council business. It just doesn't make sense to give them early on in the good time of the day and have us wait and do our business late in the afternoon. It's doing a disservice to the tribes. That is really the only thing we're saying. We're not saying that we don't want to hear from CDC and NIOSH and ATSDR. I mean, I don't really believe that I even said that at all, but I do appreciate your comment.

MS. STEMBRIDGE: Anything else? All right. Let's move ahead and have a briefing about local recent media coverage. I believe Marlene has certainly posted the clippings boards at the back and across the wall a little bit. Whenever we're in the Tri-Cities, there is a lot of Hanford-related news, so I will yield the floor to Marlene.

MS. NESARY: I urge you to take a look at the clippings over there. One of my personal favorites was a small little notice in the newspaper, which I couldn't find this morning, that came out a couple weeks ago when there was a big wind storm and the TV news did it too. It basically said, "Don't touch the tumble weeds, you don't know where they have been." And that was a good one.

I also urge you to read an editorial by William Bakette, which was published in early February regarding the results of the study and the lingering effects of distrust among not just the downwinder community, but other elements as well. I think that is all.

MS. STEMBRIDGE: Armondo, did you have some news bits to add for us?

MR. TRENTI: Yes, Lynne, being that we are on the Hanford site here, I brought a three-ring binder of newspaper articles that I should have brought to the last session. And also what I did was talk to you about having a tour on the Hanford site for the health effects subcommittee members.

I talked to the president of Fluor Daniels, and they are willing to take members on a tour, but unfortunately this meeting is booked pretty solid, but next time to you come to the Tri-Cities, you're welcome to go on a tour on the Hanford reservation. I will recommend, maybe a Tuesday afternoon, but I will leave that up to the committee. If the folks want to come early, we can give them a tour and pick them up at the hotel. But Fluor Daniels is very receptive to taking members of this committee on a tour of the Hanford site and possibly the Hammer facility where we do our training.

MS. STEMBRIDGE: Okay. I will make a note of that on the running list that I keep for future agenda items, and we will come back to that at the end of the meeting and have some further discussion. Linda.

MS. KEIR: There is no way Marlene could have included this in her summary because I just dug it out of my files. The Oregonian carried a very cogent response by Rudi Nussbaum and Charles Grossman. They are both PSR members, Physicians for Social Responsibility. They are founders along with other people present here, of the Northwest Radiation Health Alliance. And I have reproduced some copies on the table. And there is one copy that is tacked up with the other media announcements that give a one page -- of course, it could have gone on much longer, but kind of a one-page summary of the glaring problems with the Hanford Thyroid Disease Study and the way it was announced. So I call your attention to that.

MS. STEMBRIDGE: Marlene.

MS. NESARY: Just thought of one other point that is interesting. I did download coverage from other Northwest papers just to compare the difference between the Tri-Cities coverage and elsewhere. And one difference that is slowly being rectified is, in the initial reports after the study was released, most of the criticism that was talked about within the stories was couched as downwinder critics. Only recently in the last couple stories have some scientific critique of the study been mentioned.

MS. KEIR: I wanted to add to that. I am glad she brought that point up. Dr. Nussbaum is a physicist and has a lot of experience studying transuranic elements. And Dr. Grossman is a practicing M.D. who has taken many downwinder histories. These are people that are on the front lines, whether it be in the lab or dealing with sick people, and not one dime did they get. This is all volunteer work. It didn't take them like nine or 10 years and several million dollars. It's amazing.

MS. STEMBRIDGE: I guess the only other thing that I would add is that about this time every year, the Hanford budget goes through its annual wriggling and writhing compiling its budget. And there are going to be budget hearings at the Richland Field Office and around the Pacific Northwest the week after next, Portland, Seattle, and Spokane. I believe they already had a full-day briefing here in Richland on the Department of Energy. This is the federal fiscal year 2000 budget. So in addition to a great deal of news on the health effects front, there is beginning to be what is almost an annual exercise in how many jobs are we going to have to cut? How much program work are we going to have to cut with respect to the clean up? And that is a big topic that will be of increasing interest over the next couple of weeks.

Anything else about news coverage? I mean, a big item of the news is the Thyroid Disease Study. And we will spend a great deal more time talking about that during the course of this meeting.

If there is nothing further, I suggest that we move along to our next agenda item, which is a review and discussion of agency responses to our advice and recommendations. You should have each received an action item list. It's a spreadsheet grid. Down the left-hand column are tracked by Xs and zeros. Zero meaning open, response not yet received, Xs meaning completed.

Many of the action items with respect to membership issues have been completed. The suggestions and recommendations that this group made to ATSDR to the memo that we discussed at our December meeting, our suggestions and recommendations have been incorporated, so those items have been cleared. We did receive an official response letter from ATSDR. Most of our advice to CDC at our last meeting had to do with the Hanford Thyroid Disease Study. Advice across the board to the agencies was offered regarding funding issues, and we will be hearing an update on those items later in the day. As I said, we received only one formal response letter and that was from ATSDR.

Are there any other comments or questions on these action items? I can't decide if it's the low light in this room or people haven't had enough coffee, but it's 9:15 and here we are just ripping right along, folks. Well, then I think that we shall -- Bob, did you have something you wanted to add?

DR. SPENGLER: I don't know where in the agenda you wanted to talk about the latest on the funding front.

MS. STEMBRIDGE: You might as well take this golden opportunity.

DR. SPENGLER: Thank you. Because some of you are fairly new to this process, let me provide a little history to this. ATSDR in previous years has been funded through the environmental management side of the Department of Energy. And in recent years, we had to negotiate with each of the regional operations offices, and so, for like fiscal year '97 and '98, if I'm not corrected, we were reliant on funding from the Richland field office plus whatever was added from headquarters in Washington, D.C.

And I'm pleased to report that over the last several months, ATSDR, the Agency for Toxic Substances and Disease Registry, along with the National Center for Environmental Health and the National Institute for Occupational Safety and Health have been working very hard and close with the Department of Energy in developing coordinated integrated public health activity plans for each of the sites of the DOE complex.

The first, the highest priority site for us to work on was Hanford. We've made very good progress on drafting that plan and along with the others, we're hoping by the end of March, we will have our draft plans ready for public release.

But as part of that work, DOE has already decided to release certain levels of funding to ATSDR to cover a number of activities. You'll probably remember, in a memorandum from the chair to the agencies, that one of the first action items, I believe, was the priorities that were established at Hanford from this group when you met in Salt Lake City.

So I'm pleased to report that as of today, we have official transfer of funds from the environmental health side of the Department of Energy in Washington, D.C., to ATSDR for coverage of the tribal cooperative agreements, which you've already heard Rachel speak about earlier. Funding for this subcommittee and its operations, as well as the Intertribal Council, continued funding for the Hanford Health Information Network is being passed to ATSDR. And we're developing a mechanism for funding the continuation of that program. And it's our highest priority, and to make sure there is no interruption in service. And we also have funds for our base operation activities at ATSDR, which means the public health assessments and other types of activities that we do across the DOE-wide complex.

So we've made really good progress in the last couple weeks. However, we are still absent funds at this point in time for the Hanford Medical Monitoring Program and the Iodine-131 Subregistry. I think that we're getting closer to that. I think it's a matter of DOE now meeting with the appropriation committee staffers on the Hill in Washington, D.C., and presenting to them our revised Medical Monitoring Program, providing the justification for it, how it fits into the total Hanford activity picture and how it relates to the other priorities of the agencies.

So that is going take place, hopefully, in the very near future. When that is done, hopefully, we will get the green light from Congress to go ahead and release the funds to ATSDR. If you might remember, the appropriations bill that was passed this last session of Congress for the Department of Energy included some odd language, "deferred without prejudice," and it is that particular language that they are trying to get over the hurdle on just now. To me, at least from my frame of mind, I think that we have been able to address a lot of those priorities that you all helped generate at the last meeting in Salt Lake City. And I think that the funding is, hopefully, going to be very soon for the revised Medical Monitoring Program and the subregistry. Any questions?

DR. KAPLAN: I heard you mention that within this funding there is money for the continuation of this subcommittee. I have two questions related to that. One, is that fiscal-year funding?

DR. SPENGLER: It's funding for this fiscal year, for 1999, which goes from October 1st through September 30th.

DR. KAPLAN: My second question is, when we get funding for this subcommittee, when members of ATSDR staff come to these meetings, does their travel come out of that funding?

DR. SPENGLER: No, it's not charged to this. It comes out of their own program travel budgets.

DR. KAPLAN: Thank you.

DR. SPENGLER: You're welcome.

MS. STEMBRIDGE: Other questions for Bob on this? All right. I would like to provide an opportunity for CDC and for NIOSH if they have some quick additional updates to give to the subcommittee that they can take this time to do so. Mike.

MR. DONNELLY: Thank you, Lynne. You're right in that we haven't had the opportunity yet to provide you with a formal response to these recommendations, but we will do that. For those of you who aren't aware, though, I wanted to update you on a couple things that were highlighted on these recommendations, in terms of funding issues.

Many of you may be aware, but you may not be aware, that we have, indeed, put out a request for proposal to the state of Washington in conjunction or coordination with the states of Idaho and Oregon to establish another agreement with them to continue delivery of the Individual Dose Assessment Project for another year.

I know Ellen is working on that proposal, and we ought to get it here pretty quickly. We anticipate having that awarded at the end of the period that the current agreement runs, which is the end of March. So we're working towards that. We expect that that is going to happen for at least another year.

Another issue, I guess, that is down here regarding the NAS and supporting members of health effects subcommittee to come to that -- Louise may talk about this later, I don't really know. But you should know that the NAS review did take place in Atlanta on February 4th and 5th. And in consultation with Lynne, we invited three of the members of this group to come down there: Glyn Caldwell, Louise Kaplan, and Judith Jurji. Glyn was not able to make it. However, Judith and Louise did come down to that review and were provided expenses to come down there. So I just wanted to update you on a couple things, at least, that are in the works.

MS. STEMBRIDGE: You should each have had at your place written comments that Louise and Judith Jurji submitted following their attendance at that NAS review meeting at the public day. There will be a time this afternoon, as we're discussing the thyroid disease study, for them to brief us orally about what is contained in these letters. Trisha, while Travis is getting set up here.

MS. PRITIKIN: I have a question for you, Mike. This is a follow up to an issue that I brought up before. It's one of two issues you just mentioned. This is with regard to the Hanford IDA Project. I'm the citizen representative, one of two on the extended oversight committee for IDA. I had requested, as a member a citizen member of the IDA Extended Oversight Committee, to have doses and risks from multiple exposures provided to citizens as a public service. And a letter was written on, I believe, January 27th backing up that request. And it was signed by the departments of health of Washington, Oregon, and Idaho and addressed to you, I believe, with a request for a written response as to whether and when such a public service could be offered. So I just wanted to let people know that that is progressing. I would like to hear from you, please, whether there has been a response issued, whether it's upcoming and what is happening on that.

MR. DONNELLY: The response is being drafted. It's an issue I think that you've had -- we've talked about quite a bit in meetings, but this issue, in terms of what some of the people at CDC, Charles Miller in particular, who heads our dosimetry section, is an issue that -- I think, in his opinion, is a little bit more complicated than some people have made it. That is in his opinion.

However, again, we're drafting our response, Trisha, and that will be sent to you so you will have that in writing. We're thinking about it some more as well.

MS. PRITIKIN: Right. But I want to add one footnote. We received an e-mail, several of us, you two, Leslie and Lynne and Tim Connor and I and Bob Spengler received an e-mail from Owen Hoffman, who offered to come to HHES and present to us information on how SENES Oak Ridge adds doses and risk from multiple sources. And he's actually offered to do this pro bono because ASTDR does not have sufficient funding for this. I wanted to make sure that you got a copy of that letter because I think it will inform citizens as to the feasibility of providing added doses and risk to the public. So I would like to make sure that that is discussed. I will be leaving at the end of today to take care of my mother. I wanted to make sure that this gets addressed after I leave.

MS. STEMBRIDGE: This is the presentation for those of you who were at the national meeting of all the subcommittees. The presentation that Owen made in the evening on Wednesday, I believe, after the full plenary disbanded. So many of you may have taken advantage of his presentation at that time. And I will make a note of that on his agenda item.

All right. Travis, you have some update information for us from NIOSH.

MR. KUBALE: I do, briefly. My name is Travis Kubale. I'm from the Health-Related Energy Research Branch at NIOSH in Cincinnati, and I'm here this morning with our assistant branch chief, Steve Ahrenholz, and we wanted to take five minutes and update you on some recent developments in our work with workers across DOE sites.

Since the -- and this is circulating, I hope, now, but since the combined meeting in Salt Lake City and also in response to this committee and other stakeholders, our branch has developed a program supplement to our 1998 research agenda guide, which you got a copy of in Salt Lake.

I would like this morning to just briefly go over that. I would like you to turn in the guide to page 4, and there is a series of charts from page 4 through page 7. It's a tri-fold fold out. One of the very important features we feel of this particular chart is that it identifies the various research issues that our branch and that our studies are currently trying to address across the sites.

First of all, we are, in our studies, doing several multisite. At Hanford, for instance, the leukemia-case control and the lung cancer-case control and the hazardous waste clean-up workers' feasibility study are all multisite studies, which we think increases the power of the studies, and it also increases the applicability of the study findings.

Another important feature is, we think, improvement or an important feature to look at is the improvement of the exposure assessment. One of the things that we're doing is collecting any and all information that we have at the sites about workers and worker exposures.

I think a very applicable study that addresses this particular concern is the current feasibility study that we're doing with hazardous waste clean-up workers. We also, in our studies, do not exclude workers based on sex or gender.

One of the multisite studies that we have currently under way is a 12-site study of female nuclear workers. So it's very important for us in all of the studies to make sure that these populations are included. We also consider previously unstudied sites. An example of this in the booklet are current studies, we have five of them currently under way at the Idaho National Environmental -- INEEL -- Environmental and Engineering Laboratory.

We also think that it's very important to develop studies that look at current workers. There are two studies actually at Hanford that we think are very important in this regard. One is the exposure assessment feasibility study for clean-up workers. The other is one that we're working on providing an extramural research grant from NIOSH to the International Brotherhood of Carpenters. And that is looking at heat stress and performance in carpenters.

We also think that it's very important to include or develop morbidity studies that look at morbidity rather than mortality as an outcome. There are two studies that we think are important, as far as this is concerned, that we are involved with. One is the Rocky Flats Cancer Incidence Study and the other is a bladder cancer study at Oak Ridge, K-25.

Another very important feature we think in the book -- and you can find a listing of the studies by site and also by state. Washington State and Hanford is listed on page 10 and then again by DOE facility on page 11. One of the things that I want to just alert you to is that the lung cancer-case control study and also the construction worker mortality study are two studies that are nearing the completion of the protocol development phase. And we will be asking this committee to provide peer reviewers for that protocol.

We have -- and this was an action item that we wanted to respond to, we have, and it's circulating a letter that our branch chief has written to the committee chair outlining NIOSH's peer review protocol. We want you to become familiar with that. We certainly hope that through the committee chair that you will make a recommendation for peer reviewers for both of these studies.

Last, on page one, just as a reminder, we are always looking for input, information, suggestions about our research agenda from you. There are many ways that you can contact us. These are listed all on page 1 of the supplement. I also want to make sure that you remember that our research agenda is also on-line and available that way as well. Thank you. And I'll be glad to take questions.

MS. STEMBRIDGE: Herman.

DR. CEMBER: This deals with the question on exposure assessment of hazardous waste decontamination, et cetera. When you say in the context of radiation, the word exposure has a technical definition. And in the general vernacular it has a more general definition. When you say, when they are doing work on exposure, exactly what does that mean and how are these exposures being measured? Do you know that? And is this exposure to radiation or radioactive materials and/or chemicals or both.

MR. KUBALE: I will start to answer the question. Also, one of the reasons that I made sure that the assistant branch chief was with me is that he is very much involved with writing that. So I will start, and Steve, you can finish.

The way that I understand the study, what we are doing is, we are looking at the technology that is used in the clean-up process, and we are looking at chemical radiation exposure records to try and see if those records are adequate as far as further studies using exposure assessment are concerned.

I don't really know what else to say.
Steve.

DR. AHRENHOLZ: I will help you out with that. The Phase 1 of the clean-up worker study, as we refer to it, is basically looking at seven sites. The first phase is a background phase where we are tasking our contractors to assemble information for us that addresses four basic questions. These questions are to help profile the work force, give us some insight as to the work force that is involved with these activities at the sites.

The second question that we're asking them to address is, what types of information are available as far as chemical and radiological exposures or monitoring that has been done for this work force and is continuing to be done. And this does address both the prime tier of contractors as well as subcontractors or lower tiers of contractors.

The third question that we are asking them to assemble information for us on pertains to the types of technologies that are anticipated being used by the site in the process of doing environmental restoration.

Then the fourth question that we have tasked them to look at is just what types of clean-up activities are anticipated for that site, be that a site that they expect will basically cease to exist because they will raze all the buildings and have a field left behind or whether the buildings are going to be turned over to private industry for utilization or some other application.

We have the Hanford site, work is currently under review, the Phase 1 report for that. There is a final report that is coming out assembling this information for each of seven sites. The seven sites are: Fernald, Mound, Hanford, Oak Ridge, Savannah River, and INEEL.

Based upon the information that we obtain for these seven sites from this first phase will influence what is available, as far as pursuing specific research issues subsequently. This is basically doing sort of a mid-level look at what kinds of information are available, what is being collected, what are the difficulties associated with tracking down this information. So one of the other things that we are planning to do at the end of this first phase is to put together a summary report, which basically will present what we have learned so far as this work force goes, addressing these four areas.

MS. STEMBRIDGE: Marlene.

MS. NESARY: Yes, thank you. I have a couple of comments about the presentation of this data, which in a grid like this is really helpful. It's good way to visualize the scope and find information quickly. I would ask that maybe ATSDR or CDC present some material to us that would show us the scope of research studies and give us some relevant categories so we can see the big picture at a glance.

The other point I would like to add is that it would be helpful in this grid if we could have some sense of the timing of these studies. When do they start and begin? Even if it's estimates. As another variable, it would be useful and informative to have that. So that's sort of my cosmetic comment, I like this format.

The next question is: Do any of these studies combine exposure streams from chemical plus radiological exposure, for instance? And additive doses is what I'm asking. Do any of these studies have evolved tactics for looking at additive doses from different streams?

DR. AHRENHOLZ: There are in our main program book that we had out last December. It does indicate in some of, the different studies what we're trying to do as far as exposure assessment. This means that we are looking at both the radiological component as well as chemical. And then, within radiological, one of our research objectives is to include both doses that are received from external as well as internal.

MS. NESARY: So that is a yes?

DR. AHRENHOLZ: Yes. It just depends upon which study it is and what amounts we have available for it.

One of the other things that Travis mentioned was that by combining study groups across sites, we're trying to address some of these exposure issues. One of the things that we're looking at is if there are certain categories of workers or job titles. An example would be nuclear reactor operators.

Now, Hanford had nuclear reactors and so did Savannah River. So, by looking at workers from those two sites, it gives us a larger group to look at. One of the reasons that there is interest in looking at those folks is that -- at least my understanding from our health physicist that we have on our staff -- there are some differences, as far as whether they have more of their exposure due to external sources versus operators that may have been working with materials where there was also an internal dose component.

So, basically, bottom-line is the answer is, yes, we are doing that in some of our studies.

MR. KUBALE: One other thing that I wanted to say about that is, while we have -- at the other health effects subcommittees, we have provided a bit more in-depth information about the studies, where they are, as far as development and completion. We would be glad to do that, provide that information for this committee as well.

MS. STEMBRIDGE: We have five minutes and four more cards, so keep pushing along here.

MS. KEIR: I wanted to compliment NIOSH. I'm one who is very critical of the agencies, but I notice some very heartening things about what has been happening or at least what we are being told lately.

I'm particularly impressed by their not just looking at mortality or cancer outcomes, they are looking at morbidity and noncancer outcomes, which we have hammered on in this committee and really haven't had much response, for example, in the thyroid disease study.

The point that Marlene raised, I think is a very good one. The effects of multiple exposures and nonradiation exposures, which we've touched on in this committee, but I think I -- I don't want to speak to everyone, but I think that we all wish we could, over the years, have done a better job of Hanford pollutants or Hanford emissions or health effects related to other than radiopollutants. Every once in a while we will have a presentation, I believe a Barbara Harper gave us a presentation two years ago, three years ago, in '96. But we really haven't had much on nonradiopollution. So I just wanted to, just once, say something nice about the agencies.

MS. STEMBRIDGE: Thank you, Linda. Buck.

MR. CAMERON: Well, I would also like to say something nice about NIOSH. I think Travis and Steve and their branch chief, Larry Elliott, have really gone out of their way to do an active outreach, to really attempt to make sure that all affected populations have an opportunity to really understand what the agency is doing in their research agenda. I think that is to be greatly commended.

I would just like to comment also on one of the items in the letter that they have provided to you and to us concerning human subjects review. I'm doing one of the human subject studies here at Hanford. I think it's important that people understand, number one, we don't refer to them as human subjects, we talk about participants. Subjects, I think of as laboratory mice. But that is the technical term.

Before we do any research or service generally where delivery that may generate generalizable knowledge, where we actually touch people, we have to convene a group both within my organization and here at Hanford, at PNL, that is comprised of both technical and community people to review all the aspects of the study, not specifically for study design, but to answer two key questions. Number one, is this research even worth doing? Because if it's not, it's not worth imposing any risk on a human being. But, number two, given that it's worth doing, have we minimized the risk to any individual and have we completely informed that individual of what the inherent risks of this study may be to them, however remote those risks may be?

I think that is really an important thing to understand, that any research done with human beings is, number one, completely voluntary, both on entry into the study, and with the ability to exit at any point during that study and that they have been fully informed of what any risk may be and what any benefits may be.

MS. STEMBRIDGE: Armondo.

MR. TRENTI: Just recently Travis came to the Tri-Cities and met with the Hanford Atomic Metal

Council, Kate Smith, John Jesky, and I. And I would like to thank Travis for coming. I believe we broke new ground with the Metal Trades Council. We gave Travis a lot of action items. And I think a meeting that was expected to take a half hour, it took almost three hours. It was a great lesson learned for both sides. We will be looking forward to meeting with you in the summer again.

MR. KUBALE: I will, I'm sure, before summer.

DR. BARTH: I would like to add a little bit to the question that was asked by Marlene Nesary. I think that the response to that question may have been a little misleading, in that you can measure exposure to different kinds of pollutants. You can measure exposure internal, external for radiation. You can measure exposure from various chemical things, but once you have that measure of exposure, that does not tell you what the risk may be associated with those combinations of pollutants.

I'm not aware of any scientific approach today that everybody would agree upon with regard to determining the risk of mixtures of chemical pollutants and radiation pollutants. I don't believe that they are going to be able to address that question. If they have ways of doing it, I would like to hear what those ways are.

MS. STEMBRIDGE: Okay. Trisha.

MS. PRITIKIN: I'm actually directly following Del's question because it does relate to Marlene's comment. A lot of these workers went between several similar sites, say, Oak Ridge, Hanford, and had same substance from different sources plus Nevada Site Test fallout.

And what I heard in the response to your question, Marlene, was that, yes, we could add those doses and risks from the same substances. And I hear what Del is saying, too, that it would be difficult to determine risk for combined unlike substances.

But what I thought I heard was, yes, for the workers, we can provide added doses and risks from similar substances but, no, not for people, like, off-site communities, because I'm asking for that for the Hanford Individual Dose Assessment Program for communities exposed. So I want to make sure the workers and the communities are treated equally on that. So I wanted to clarify what the response was on that particular issue, please.

MS. STEMBRIDGE: We will take a quick response from Steve and then we have a member of the public, who, I presume, has a question to ask. And then we shall adjourn for a short break.

DR. AHRENHOLZ: I think what I would like to just clarify is what we're trying to do here, and what we're trying to do in these studies is that we are trying to address as many of the contaminants that workers may have encountered as possible.

Del is right, as far as there is a lot that is unknown about multiple exposures to varying contaminants. And we don't have any magic bullets for that. What we are trying to do is that a lot of work has tended to focus on one or two contaminants. And we're trying to address as many as we can. And we're not limiting it exclusively to radiological contaminants. So we are also looking at the chemical contaminants that may be encountered because some of those have rather significant adverse health outcomes associated with them as well.

MS. STEMBRIDGE: Norm, your question?

MR. BUSKE: Let's see. This is a question, and for this I will put on two different hats. One is,

I'm an alternate member of the Hanford Advisory Board and the other hat that I'll put on is there is another group that I'm a member of. It's called Amchitca Technical Advisory Group. I'm a member of that and also I'm their QA/QC rep.

Let's see, I believe DOE got NIOSH involved in the worker issue at Amchitca. Amchitca is the site of the world's largest underground nuclear explosion and there were worker exposures.

I really appreciate the value for integration that NIOSH is doing. I think this is really, really important for integration. The other thing that is important, I believe, also, is it provides a conceptual basis and one hears conceptual comments. I didn't see Amchitca listed. I believe NIOSH is involved. Can you explain, are there other sites and other studies that are not listed in this? Thank you.

MR. KUBALE: I think there are a couple of things as far as Amchitca is concerned. But before we get to that part, in the back, on page 13 in the supplement, we have included a listing of studies that have not yet been assigned to a DOE site and also other studies that we have currently going on in our branch that don't fit one of the categories. So I wanted to call your attention to that.

The specifics of Amchitca, Steve, do you want to comment on that?

DR. AHRENHOLZ: Yeah, I can comment some on it. I haven't been involved directly with it, but NIOSH's involvement as far as Amchitca is concerned has been primarily that of reviewing records that are in existence and were provided to us as far as dosimetry and monitoring that were done in association with those activities up there. And that information was provided back to the Department of Energy, but that has been the primary focus of our involvement. It's not a project in and of itself that we're involved with.

MS. STEMBRIDGE: I know there is still some cards up. I would encourage you, during our 10-minute break, to button-hole either Travis or Steve.

And for subcommittee members, this is something that we have been talking about paying more attention to for quite some time now, more interest in worker studies and worker issues and evaluating if, in fact, there is a niche that this subcommittee can fill, and good that we can do in this particular arena. So I'm hopeful, as we catch the backlog of things that were postponed over the meetings that we missed, that before too much longer we can begin to devote a big chunk of time to looking at worker issues. I think there is clearly interest in this group and there is clearly merit in doing that.

So that being said, I would like to adjourn us for a 10-minute break. Please be back promptly at 10 o'clock.

(Recess.)

MS. STEMBRIDGE: We have scheduled at long last a discussion about the National Cancer Institute's study on the test site -- radioactive fallout from the Nevada Test Site. We had contemplated discussion a year ago in April, had deferred it to our planned July meeting in hopes of having this presentation in conjunction with high school teachers at Pacific Lutheran University. That meeting was canceled due to lack of funding. We might have done it in our November meeting but that was canceled due to lack of a quorum. And we just couldn't possibly do it at our December meeting because we only had a day and a half to catch up.

At long last we are going to tackle this topic. And we have with us today Tim Connor, who is a member of the Advisory Committee on Energy-Related Epidemiological Research. And who is also, I think, one of the most extraordinary investigators and writers and citizen activists working in this arena today. He is the author of *Burdens of Proof*. For those of you who don't have a copy of this book, I would

encourage you to pick one up back there.

I have known Tim for a very, very long time. And I can think of no one better to address this topic. So with that, I will turn my microphone over to Tim and let him give us the picture.

MR. CONNOR: Thank you, Lynne. Good morning. I thought the first thing I should do is explain a little bit about the number of hats I have been wearing. Today, I guess, I'm officially appearing here as a member of the Advisory Committee on Energy-Related Epidemiologic Research, and more formally as the chairman of that committee, subcommittee, for community affairs.

I was appointed to that position approximately two years ago. The subcommittee, as the name implied, is interested in looking at the community aspects of epidemiologic research.

Before I wore those hats, I wore some others. My background is in journalism. I have a degree in journalism from Washington State University; in 1979, started out in the world being an investigative reporter. That worked for a while. One of the early assignments that I drew in my early 20s was looking at what was happening at Hanford. I did a very long cover story for the Spokane Magazine on the impending collapse of the Washington Public Power Supply System and then started getting into some of the issues that were beginning to arise as the Carter/Regan administrations were looking back to places like Hanford and Savannah River for plutonium for the next generation of nuclear warheads.

My colleague, Larry Shook, and I got a grant from the Fund for Investigative Journalism in Washington, D.C., to do a series of articles on what the restart of the PUREX Plant meant. And we published that series in 1983.

One of the questions that we were pursuing, of course, was not only why the plan was restarting, but had happened? What was the Hanford experience today? What do we know about the environmental health, public consequences of that? And we started pursuing an interesting question. In 1975, the Atomic Energy Commission, which was on its way to becoming the Energy and Research and Development Administration at the time, did an Environmental Impact Statement under court order from the National Resources Defense Council. NRDC went to court and sued them, said you shouldn't be doing all these things unless you comply with the National Environmental Policy Act.

So there was this first meaningful period of disclosure, public disclosure of what had happened at Hanford. And because I'm the document guy, I was assigned as part of our team to look at that and see what was missing. What was missing was some validation on the historic atmospheric emissions from Hanford. And so Larry and I said we would like see those records. We were assured that they had them. We were stonewalled. We were unable to get the records in time for us to publish our newspaper series.

When the series came out, we made a big deal to underline that omission, which eventually began to be picked up by -- I was going to say more mainstream media -- what I meant by that is reporters with more steady jobs. And new organizations like the Hanford Education Action League, which was coming into existence. And both Larry and I eventually worked for HEAL as staff researchers and picked up that request and were part of the process of filing the monstrous Freedom of Information Act request, which was one of the things that eventually coughed up the Hanford documents, on the last day of March in 1986 from which we learned about the Hanford emissions.

I was at HEAL from 1985 to 1989 and have since gone on to do other things, although I have been working in this area and because of that was asked to join the ACERER.

Being here today is also a homecoming of sorts. It would be more of a homecoming for my sister, who was born in Kennewick. I was actually born at Camp Hanford. If you look in my high school yearbook, you see Tim Connor, Camp Hanford and Richland, Washington. The reason for that was they tore down the Camp Hanford Hospital and moved the records to Richland. That is why I wound up with two birth places.

My mother's family moved here during the depression. My grandfather had the privilege of

selling life insurance to downwinders and Hanford scientists. He was also a great guy. He was the father of four children. One of them is my mother. He was very active in his community, was very keen to advance race relations in Pasco at a time before the country was really taking that seriously. A great role model, someone that I think of almost daily as I try to become a better person, a better father, and a better citizen.

My grandfather would have been sad had he been in the room with me a few weeks ago. I was there with Lynne listening to the results of the Hanford Thyroid Disease Study. He would have been sad because of the wounds that would have been inflicted on his neighbors, many of them, who were being, at that time, deprived of what they thought was their experience. So I'm mindful of that today.

And because I'm one of those people who asked for this study and went to Congress to ask for the funds to do this in the somewhat naïve hope that it would do us better than what we had, both in terms of accountability and bringing some sort of closure to a traumatic experience, it saddened me greatly that it had the opposite effect, in a way added insult to the injury in the way this report was released.

We can argue about the science later here in the hall, et cetera. I would be glad to do that. But I just wanted to -- I thought it was important to come here today and publicly apologize for the hurt that that experience has inflicted on people that really did not have it coming. And I accept some of the responsibility for that, and I'm sorry.

With that, I want to talk a little bit more about the advisory committee and how we got into this whole issue of the Nevada Test Site fallout. I'll try to truncate the history of this a little bit. But by the late 1980s there was somewhat of a crisis in government, in that it had become clear that the epidemiologic health research wing of the Department of Energy had lost credibility. And there were people like Senator Glenn and Senator Worth, who were looking at legislation that would have formally taken the health research arm of the Department of Energy and transferred it lock, stock, and barrel to the Department of Health and Human Services.

The energy secretary at the time, Admiral James Watkins, really didn't want that to happen and he sort of intercepted that legislative transfer with what became, essentially, a gentlemen's agreement with Senator Glenn and others, which was, "Let me do this by interagency agreement, let me do a Memorandum of Understanding with the Department of Health and Human Services."

And what happened with that first MOU, as we call it, was that the analytical epi program in DOE was transferred to the Centers for Disease Control of NIOSH. The descriptive part of it, the part that is responsible for monitoring workers and so forth remained with DOE. As part of that MOU, the advisory committee that I sit on was formed. Our job was to oversee this new regimen of doing a federally funded radiation research. There has always been -- I will say some acrimonious friction about just who we are and what our responsibilities are. There has been a constant battle amongst the committee members to do things that are relevant and useful. Not something that we had necessarily anticipated, but it's just been there. I guess that is part of trying to work with government.

One of the key questions that we have always struggled with was, what is our scope? I mean, ostensibly, we are appointed by the Secretary of Health and Human Services to look at federally sponsored radiation research.

Under the MOU it seemed that that broad charter was more specific in looking at CDC and NIOSH, but there was other federal radiation research being done, a lot of it being done at the National Cancer Institute. About, oh, when was it, well, late '95, '96, members of our committee became aware of a study that was lingering at the National Cancer Institute that was intended to look at radioiodine exposures from atmosphere fallout at the Nevada Test Site.

They have been going to scientific meetings, getting briefings that were not quite public briefings about the magnitude of these exposures and the size of some of the doses. Basically -- essentially what they were hearing was that we were getting Hanford-like doses all the way to the East Coast from the

Nevada Test Site fallout under certain exposure scenarios.

And we were very concerned that -- I'm trying to say this as diplomatically as possible, is that either the folks at the National Cancer Institute had lost interest in this study or they weren't terribly interested in the public knowing about what they were finding. So ceasing the broad view of our charter, we begin to ask questions and apply pressure to the system to try to get the study out. Our first effort at that, formally, was a resolution passed in April of '96, that was passed on to the staff at CDC and also to the National Cancer Institute saying, "We're aware of this research; not only the research about the NTS exposures but also the important research going on in the Soviet Union. We would like to know what you're doing and what the progress reports are and when we're going to see this."

Well, to make a long story short, before we saw the study, journalists got wind that the study existed. Many of us were helpful in briefing them on what we thought the importance of it was in the summer of 1997, USA, EPA and others, I think the Associated Press was actually the first to report that this study existed and what its implications would be. So we went through a frenzy of activity where the report was not quite finished but the National Cancer Institute had to come out and answer questions about it anyway. It's kind of a strange and bizarre sequence of events because it, basically, put the head of the National Cancer Institute, Dr. Richard Klausner, in a position of saying, "Everything is okay, but then again it's not, and I know you're interested so I'm going to come out and give you a heads up and start talking about this report." And he did this. There was a teleconference with the press. I can't remember whether I was listening to it live -- actually, I know what it was. You could actually call in after. I wasn't allowed to be on the call, but I called in later and actually listened to a recording, and it was a very interesting conversation, during which he said the report exists. Yes, there were exposures. He tried to, I think, downplay the importance of it. But he did allow us that their first look at the doses resulted in an estimate of possibly 10,000, 75,000 additional cases of thyroid cancer from these exposures.

Now, when the report was finally formally released, September, October of '97, the risk estimates actually weren't included in the report. But what it did report was, basically, it looked at 90 nuclear tests at the Nevada Test Site with a combined release of a 150 million curies of iodine-131, found that the heaviest years of the releases were 1952, 1953, 1955, and 1957. And what they did was a study that looked at where the fallout from the Nevada Test Site was deposited over 3,100 counties.

Now, they didn't actually have monitoring stations in 3100 counties. They had, I think, 100 from which they were able to extrapolate data about what happened in individual counties. That map was actually published in USA Today, I think, even before the NCR Report was publicly available.

So it instantly triggered a lot of concern. For those of you who live in the Northwest, one of the interesting things was counties in Idaho, according to the NCI, got some of the highest exposures. So people like Senator Kempthorne and Senator Craig were very upset that they were getting calls from constituents saying, "Why didn't the government tell us? Why did it have this information or this knowledge for some time and not tell us that we had gotten these exposures and these risks?"

By December the NCI had revised its thyroid cancer risk, largely through the work of Elaine Ron and Charles Land with some help from my colleague Owen Hoffman. I think this estimate still stands. Their best estimate is the expected range of the excess thyroid cancers from the exposures would be 11,300 to 211,000 extra thyroid cancers with the best estimate of about 50,000. That 49,000, 50,000 estimate was based on assumption that the relative biological effectiveness of the iodine-131 for cancer-promoting purposes was two-thirds or .67 as effective as gamma x-rays. In other words, what they did was look at the available research on exposures to the thyroid gland going back to the A-bomb survivor studies and since, through the exposures in hospitals and for therapeutic and diagnostic -- exposures that resulted from therapy and diagnostic efforts in hospitals where cohorts had been assembled after those exposures. Basically, saw what the effective x-rays and gammas and then what looked at what seemed to be -- if I can use the word discounting. When we looked more particularly at iodine-131, the

betas from iodine-131 seemed not to be as powerful in promoting cancer as the x-rays in gammas. So that is how they derive that best estimate.

Almost immediately after Dr. Klausner -- well, simultaneous with when he began speaking publicly on this, he announced that it was the intent of the National Cancer Institute to send the report to the National Academy of Sciences, slash, Institute of Medicine to do two things. One was to look at the technical credibility of the report, and did the various disciplines come together well enough to give us -- allow us to report these doses with any accuracy.

His specific charge to the Institute of Medicine was, "Well, what do we do about this? We have national exposures. We have some large numbers, in terms of excess cancer risk. The medical literature indicates that we would expect some other thyroid disease, so what do you make of this?"

The Advisory Committee on Energy-Related Epidemiologic Research was not consulted. Dr. Klausner didn't come to us and say, "How should we handle this?" He simply went to the NAS/IOM, not to say that was inappropriate. I just want to report that it didn't happen. Maybe it was appropriate. I wish, in retrospect, that he had come to us, but that didn't stop us. We decided that we wanted to pursue this issue, pursued it the rest the '97 and '98.

I was -- well, let's see, I can't remember whether I was charged to do this or whether I simply volunteered to do it, but I thought it was important that the subcommittee for community affairs take the lead role in assessing this, so we did that. And last summer, held a meeting in Boise where we brought in Laura and other folks who had been working on radioiodine health implications. Laura was brought in because we wanted to know what kind of information programs had been developed at HHIN around Hanford that might apply to a national program. But we were also concerned from the beginning about what is the appropriate response medically? Should there be a medical response? Should people with these kinds of exposures spread out geographically? A, what do we owe them? B, what is feasible and useful to do? It quite honestly resulted in some very long -- I hate to characterize them as arguments because they were more collegial than that, but some very heated discussions of what the right approach would be.

Shortly after the meeting in Boise, the NAS/IOM came back with their prepublication draft report. Basically, their report back to Dr. Klausner on what they had found technically and what they were going to advise for people that had these exposures.

This was at the same time that our advisory committee's recommendations were also in the pipeline. Our recommendations were, basically, days after the IOM/NAS report came back. What I want to do is read what our recommendations were and are and just work through them, in terms of what the agreements and disagreements were between where the ACERER, the advisory committee, came down on these issues and where NAS/IOM came down on it. Our first recommendation was to fulfill the legislative intent of the public law that had commissioned the study in the first place, that sent NCI out in 1982 to do the study, part of which included doing a larger assessment of the other radionuclides involved. In addition to the iodine-131, of course, there were many other things that had fallen as many of you know.

Recommendation No. 2, complete a comprehensive dose reconstruction project for the Nevada Test Site fallout. Recommendation 3, notify Americans of the factors that might help them determine whether they received significant radiation doses from the Nevada Test Site fallout. Recommendation 4, create public and health care, provide an information service on Nevada Test Site exposures and health concerns. Recommendation 5, support our archival project to document experiences of exposed people. And Recommendation 6, further evaluate screening issues to thyroid cancer is urgent in the meantime to evaluate the advisability and feasibility of screening for other noncancerous -- in parentheses, thyroid and parathyroid thyroid diseases with a priority to evaluate the service for those at highest risk due to their exposures.

So those were our recommendations. Where there was an agreement with ACERER and

IOM/NAS was -- I think that we both agreed that there was a responsibility here. However, you would act on that responsibility, but the government had some responsibilities to people that were exposed unwittingly and against their will and that this responsibility, at a minimum, extended to notification and education. In other words, we basically agree, although we haven't done it yet, that we have an obligation to go out to people that were, because of the combination of where they lived, what age they were, and what they were drinking at the time, namely, fresh cows' milk and goat milk, to alert them to the fact that they are at significantly greater risk for thyroid disease and other diseases. We agree on that.

Places where we disagree, the NAS isn't keen on doing dose reconstruction. I'm sure if they were here they would describe their verdict on that differently. But because they couldn't be here today, I will elaborate on their behalf.

It was interesting, if you read the report, what they found, that while dose reconstruction might be a technically interesting and valuable thing to do, there is no overriding public health need to do it. Basically, they said it would be interesting technically. In terms of the nation's needs and the priorities for public health, they don't see it as a large priority. So that is one area of disagreement.

We still think, for accountability purposes, that the dose reconstruction should be done. Before we deal with the issue of the public health ramifications, I think ACERER's view is it's a clear accountability issue. You do it, you find out, and then you make the determination of the public health significance. You just don't rule out the dose reconstruction because you don't see it as a public health concern.

I hope I'm not making you dizzy switching the hats back and forth on that, but it's a clear area of disagreement. And I'm sure if someone were here from the NAS, they would articulate it somewhat differently, but I hope I've captured the gist of it.

Another key area of disagreement was the Hanford Medical Monitoring Program. It was interesting that although it was not in their charge, necessarily to look at the Hanford Medical Monitoring Program, they did. And IOM very clearly went out of its way to say, A, it was a bad idea. And, B, if they continued with the Hanford Medical Monitoring Program, please inform the public that you're not doing it for public protection but you're doing it because you're caving in to a vocal and powerful political constituency that wants this program for political purposes. We have a strong disagreement with that, with their take on that.

Now, there is concern on the ACERER and some acceptance of the main, I would say the main public health concern, of doing the Hanford Medical Monitoring Program or other -- pardon the pun -- other hands-on thyroid screening programs. The concern is that if you bring in -- basically, if we round up asystematic people, bring them in for thyroid exams, palpate their thyroids, or worse, use ultrasound on top of that, we will find nodules. And we're going to -- when we find nodules, we will go in and do Fine Needle Aspirations to find out what is going on with that tissue.

Where the IOM came down on that is that when you do that, there is no evidence in the literature that you are going to be detecting any cancers at an early enough stage to make a difference in those people's lives. So there is no evidence for that.

And, B, in those situations where the biopsy is inconclusive and you have confusion as to whether this is a benign nodule or cancerous nodule, you will get unnecessary thyroidectomies. Even though it's conceivable that some of those thyroidectomies would, in fact, be necessary to avoid cancers, if you look at the sheer numbers that they expected, you will have more thyroid ectomies, more unnecessary thyroid ectomies that you will prevent cancers, intercept cancers. Given the invasiveness of the thyroid ectomies and the possible damage to the laryngeal nerve and other side effects, their opinion was, don't do it. In these circumstances, under this set of medical ethics, it's unwise to do that.

Well, we will get back to this issue of thyroid cancer screening later. I wanted to note that one of the pieces that circulated in the break is this November 14th memo. I actually wrote this to my own

subcommittee for a meeting that I wasn't able to be at. There is a reference in the second sentence, "The child apparently held up in there doing crossword puzzles." What I meant by that is that my son was in utero at the time and he was expected to come out shortly. Because I was more needed on that end than at this meeting, so that is what that obscure reference is about.

The rest is just laying out the case for how I think they ethically, seriously erred in coming to, reaching that conclusion about thyroid cancer screening. Now, the other thing that I want to point out, and that is reflected in the ACERER resolution, is that there is a much stronger case for the blood test screening, looking at noncancerous and nonneoplastic thyroid disease. In my view, the IOM walked up to and just backed away from, without subjecting itself to the necessary intellectual rigor to do the point justice.

The concerns -- let's accept that the disagreement -- and some of the ethical questions about doing thyroid cancer screening are difficult. Okay. But let's also accept that those considerations don't apply to blood tests. If we simply go to do blood tests, to look at thyroid hormone levels, thyroid antibody levels, TSH and others, we can do that without palpating thyroids, and certainly do it without putting ultrasounds to thyroids.

The question to my mind still, this day, is why didn't the Institute of Medicine do a better job with that issue because they sort of sawed it off and walked away without really explaining why they could not, would not recommend such a program. I think they've really done the subject an injustice. We had -- it was interesting, at the meeting that ACERER passed its final recommendations, that Dr. Robert Lawrence and Dr. Ernie Mazzaferri showed up to present their case. It was clear that they did agree where our recommendations are headed, and they showed up, basically, to level their wisdom at us.

It was a very heated and lively discussion. I don't think they persuaded us at all that they had taken the subject seriously. So that is where, in sum, we are on the differences between NAS/IOM. We did have a subcommittee meeting last week to try to advance the ACERER recommendations. And there will be a refinement of these recommendations that will be ready no later than April for the next ACERER meeting.

But it's interesting enough that one of the things that we feel even stronger about now is supporting the Hanford Medical Monitoring Program. Ironically, one of the things possibly obscured by the other Sturmund drawing about the Hanford Thyroid Disease Study results, it turns out that the number of thyroid Fine Needle Aspirations, the biopsies where we came back, where we expected to see inconclusive, confusing results about whether it was cancer, the number of those instances was much lower than was contemplated in the draft of the Hanford Medical Monitoring Program. So in a way HTDS showed that you can do these kinds of biopsies and reduce, below the expectations beforehand, the number of thyroidectomies that would occur because you're not seeing a clear result. So in a way, it further makes a case on that level for why we should incorporate thyroid cancer screening into the Hanford Medical Monitoring Program.

I think it is also the committees's view, right now, is that ATSDR has taken a responsible step in addressing the concerns that the IOM raised about the use of ultrasound. We basically like where ATSDR is going in changing the protocol to respond to those criticisms. Again, the point I would underline is that I fully expect that when ACERER sends its final recommendations to the Secretary of Health and Human Services that there is even going to be stronger support than there was for the Hanford Medical Monitoring Program.

It's important to address the Hanford Thyroid Disease Study today as part of this for political reasons. I'll have some more to say about this later, but it is probably best to use public comment time and not create any confusion about who I'm speaking for about this.

But, certainly, the results of the Hanford Thyroid Disease Study were going to be relevant well into the margins of whatever we do about the Nevada Test Site exposures because we are going to learn

something from people that were exposed to significant doses of iodine-131. So it's there. And whatever happened, whatever Fred Hutchinson, whatever the Centers for Disease Control were going to say in January, we were going to listen to. We were going to learn something.

I have, obviously, some emotional concerns about how that message was conveyed, but it is also important that we look very rigorously at what the study did and how the results of that were presented, because my view on this -- and I'm sure it's intellectually defensible, is that while this may have been a noble effort to do what many people thought would be a good epidemiologic study, the inconclusive results of this epidemiology study have gotten far more weight and much more interpretation than I could have imagined beforehand. I guess the clearest way to cut to the chase is to go right to the end of the executive summary for the Hanford Thyroid Disease Study, which was, again, to refresh our memories, a study set up specifically to find the dose response. I mean, the broader charge was to look and see if there was a connection between Hanford exposures and thyroid disease. But the narrow charge and the scope of this study was, this is a dose response study. We didn't see the dose response. We found a lot of thyroid disease, not a lot of cancer, but a lot of thyroid disease.

And, from which the Fred Hutchinson research has concluded that these results provide rather strong evidence that exposures at these levels to iodine-131 do not increase the risk of thyroid disease or hyperparathyroidism. These results should consequently provide a substantial degree of reassurance to the population exposed to Hanford radiation that the exposures are not likely to have affected their thyroid or parathyroid health. I strongly disagree with that. I don't see any reassurance to the level that the Fred Hutchinson researchers, who I now understand wrote this positive. I don't see it.

The one thing -- I guess in some sense we would all be lucky if we could do our careers backwards. After asking Tom Foley and others that have funded the Hanford Thyroid Disease Study, I went out and researched this book, *Burdens of Proof*, which talked about, I hope with some clarity, about the nature of these types of environmental epidemiologic investigations. We are learning not through deduction but by induction. We are learning by inference. We do a lot of these studies, and we hope to learn something about the big picture. When you see scientists doing one study and suggesting that they somehow obtain the world and understand God, on the basis of this one study you should walk away with him like you would a skunk. That has happened here.

It is vastly premature to be saying that the study was done right. There are questions about the dosimetry. There are certainly questions about whether this study was as a powerful as the Fred Hutchinson investigators portrayed it as. One of the endlessly annoying things about these kinds of studies is that you don't really understand them well until you understand whether there was adequate statistical power.

Unfortunately, you have to be mathematical genius to master those calculations. I don't fall in that category. But at least it is something that I knew and I hope others knew that we would have to look at carefully when this study came out. It needs that. I mean, the tires on this thing really need to be kicked on a technical level just to figure out what it says from a technical standpoint before you deal with what it means to the downwinders. Let's just deal with what it means technically and give it a good scrub and find out what it means in its own right and what it may mean for generating hypotheses for further studies. Let's just do that technically. For God's sake, let's leave the downwinders alone until we can give them meaningful answers about their experience.

In *Burdens of Proof* I used the line that is -- that really frames this kind of research. I mean, we are looking at what people call stochastic, which are the kind of injuries that are defined by looking at the forest through the trees. It's not the kind of laboratory experimentation. It's not even the kind of science that you can do with, by and large, all infectious disease where you go in if somebody is sick, you find the bacteria or the virus and you make the causal connection there. We can't do that with radiation induced cancers or cancers caused by other environmental carcinogens. It's rare that we can do that. Okay. At the

least, it's very challenging to do that even with the advances that we've made in biomarkers and so forth.

The line I used in *Burdens of Proof*, speaking about deaths from radiation exposure, is that -- and trying to make sense of that is death by lottery and burial in a deep pile of statistics. The deaths are real. They are real in the sense that science has taught us they are real. The collective weight of the science of epidemiology going back to the A-Bomb survivor study and before that tell us that this is harmful at low levels, and we assume, based on what we know, there is a linear dose response. Well, folks, what that means for the Hanford study is that, unless our world of understanding how radiation works has been stood on its head by this study, that people were hurt. We have known for the longest time that the thyroid is one of the most, if not the most vulnerable organ to radiation. And we know that radiation exposures occurred. We don't know perfectly what I referred to earlier as the discount is because the iodine-131 beta and gamma and x-rays, but the weight of science coming in before this study, before the end of January is that we hurt people.

The question is, could we find them with a study. And the question about the Hanford Thyroid Disease Study is, now, why didn't this study find those injuries? My guess is, speaking as Tim Connor, my hunch is that we're either dealing with a statistical aberration or collection flaws in the study design or a much weaker signal of dose response than we expected.

But to say that the signal isn't there and that injuries didn't occur, is to go back and through out the BEIR-V report, BEIR-III, or whatever report succeeded that. A lot of censure. You're throwing out the literature on radiation. That is where the real injustice was done to the downwinders, I think. Because this study was -- even with the quiet disclaimers, was presented as a repudiation of their experience. Don't believe your long experience, believe that this study answered the question and reassured you that your health was never seriously or meaningfully at risk from these exposures.

Again, speaking as Tim Connor, I reject it. I think great harm was done to not only to the downwinders, but to the future of programs and research that I have worked on the last 10 years, first to get it out of the hands of DOE and now to get it done well, so it can continue.

At this point, I think as a member of the ACERER, I'm forced to wrestle with the question of whether any community should allow CDC and contract researchers like Fred Hutchinson to come into their communities, ask to come into their homes, ask them questions, spend their tax dollars to do this work. I have a hard time with it, and we need to get to the bottom of that. I just want to leave you with something before I entertain questions on this.

I just want to make the point, and I think it's part of the point that I was put on this federal advisory committee to make, that this isn't just about science. It isn't just about statistics. It's been accountability. Is about people's lives. This is a fax I received just a couple days ago from a friend of mine who is a Hanford downwinder, and she has given me permission to share it with you today.

"I remain completely and utterly mystified by the entire concept of statistically insignificant incidence of death by potentially radiation-induced disease. Pause if you would for a moment to contemplate the very possibility that one can lose one's entire family to disease deemed, quote, potentially caused by radiation exposure, close quote, yet have this wholesale loss of one's entire family show up as a negative on the Dose Response Study.

"A more than surreal endpoint obtained by the application of experts of their statistical and epidemiological wizardry to the occasion of the deaths of my entire family and those of a multitude our Richland neighbors. One might find oneself involuntarily sliding into a permanent state of bitter dissolution.

"But to take an unexpected hairpin turn, instead, finding myself in the statistically insignificant position of wholesale loss, I pause to marvel that epidemiologic methods can obtain this magical state when properly applied of crashing through the fields of dead and dying without a statistical scratch.

"This would all seem to mean, by the way, that my family and I have somehow become a sort of

negative projection of succumbing. I do like this last as it induces in my humbled soul a nonunderstanding of whether I am significantly alive or insignificantly otherwise.

A chilling thought as I brace for the challenge of hospice and the perfections of death for which I am developing a patent, practice skill." Thanks.

DR. KAPLAN: First, I would like to thank you for taking the time to come and share your thoughts with us and for your efforts on this committee and the work that you have done over the decades probably by now. A couple of questions and a couple of thoughts that occurred to me as you were speaking. One -- and I apologize because I could have looked this up -- is the NAS Committee that did the NTS Study the same NAS committee that is reviewing the HTDS? And Jim Smith or Mike might be able to --

MR. CONNOR: I do not think so, but if someone knows otherwise, they can set the record straight.

DR. KAPLAN: Do you know if that is the same committee?

MR. CONNOR: Yeah, Louise, let's make sure I understand the committee that reviewed the NTS study, is that the same as the committee that is reviewing HTDS?

DR. KAPLAN: Right.

MR. CONNOR: There is a lot of overlap. It's not exactly the same committee. But remember the NCI took their charge to review NTS to the Institute of Medicine, IOM. The Institute of Medicine said we would like help from the NAS committee in evaluating some parts of this, so members of the NAS committee were used in the review. Now, also keep in mind that the NAS committees, like the IOM committees, they turn over continually. So the membership that we have as of today isn't the same membership as of a few months ago.

DR. KAPLAN: Well, I appreciate that because now what I'm going to do is take my list of people who are reviewing the HTDS and compare it to the people who were reviewing this NTS study, because I think it will be interesting to see who is on the committee and where that overlap is.

Another thought that occurred to me as I was scanning this and thinking about your comments on screening, is that one of things that I don't remember seeing in the result section of the Hanford Thyroid Disease Study, and I may be wrong, and this may come out later, is what number of people were newly diagnosed with thyroid disease as a result of the screening process. We have a sum total of some number of people who were diagnosed, but I don't know that we were ever presented with the number that was newly diagnosed.

MR. CONNOR: You actually pull that number out for hypothyroidism because the overall number of hypothyroidism in HTDS is over 500. What I wanted to do, just out of curiosity, was look at the number of hypothyroid cases that were expected in the Hanford Medical Monitoring Program.

And if you look at the protocol for HMMP, they are described clearly as previously undiagnosed cases, and do some comparison between those expectations and what was found in the Hanford Thyroid Disease Study. One of problems in trying to make sense of the Hanford Thyroid Disease Study is that without a large, unexposed control population subjected to the same degree of medical scrutiny, it's really difficult for us to evaluate what seems to be a lot of thyroid disease. Even the reviewers and some of the

researchers are puzzled by what seems to be more thyroid disease than they expected. But just in terms of what the Hanford Medical Monitoring Program projected, they projected -- and Bob Spengler can correct me if I'm wrong in that -- about 45 cases of previously undiagnosed in the first 6,000 screened. Now, in the 3,100-plus that got this level of scrutiny in the Hanford Thyroid Disease Study, we found 142 previously undiagnosed cases.

DR. KAPLAN: So it was in there, 142?

MR. CONNOR: That is what I saw. ATSDR was not assuming any additional cases of hypothyroidism as a result of radiation exposure when they made that projection. So it was basically on what we expect to find among 6,000 of this age group in the general populations. So that number looks to be high. In fact, if you do the math, I think it's two and a half times higher for, basically, half the number of people screened.

DR. KAPLAN: The reason I think this is an important point is because one of the factors that always gets considered in, whether or not you do mass screening, is the cost effectiveness. How many cases are you are going to find? So when you're finding large numbers of cases, and that is why I think it's important to take a snapshot from the HTDS, then it seems to lend itself to greater support for your position that this screening ought to occur.

MR. CONNOR: Let's say this: It certainly doesn't undermine it. On that basis alone, there is -- in terms of the social benefit to doing a program like the Hanford Medical Monitoring Program, the Hanford Thyroid Disease Study actually supports it. It says, you know, if we look at the fact that -- I don't mean to belittle thyroid cancer. It is a serious disease, but it is one of the highly treatable cancers. We also know that disease like hypothyroidism can be fatal and seriously debilitating if they are undiagnosed.

It seems to me, if you look at the numbers objectively, what you see is a lot more support for doing screening for exposed populations. Now, if you want to be judgmental about whether somehow justice is being served because you don't understand the dose response and don't perfectly understand the connection about the added risk of exposures, you can sit and block funding and block society's permission to do this all you want. My position is, look, these folks were exposed against their will. If we can begin to put in place something that devotes money and resources to their needs rather than going into the pockets of researchers -- and excuse me, guys -- and bureaucrats, we should pay attention and do that.

We are long overdue. I've made this argument for many years. Eight years or so ago I stood before the NCRP and said it was a crime that we're devoting all this scientific energy to figuring out the dose response when we have a population we know is exposed and it's risked and we're not doing Jack for them. That is wrong. We need to solve that.

Well, now we have, I think, because of the Hanford Thyroid Disease Study, some evidence of why we can do this and create a social benefit. Those that want to argue about whether it's justified on the dose response or the science can go on arguing, but let's do justice here and this is my reaction to it. It's harder to look at when you get into issues of thyroid cancer.

I guess one point I want to make on that is, my take on this, and you will see it in my November 14th memo, it's really time that we tell people in these situations that it's okay to own up to their experience and their choices and take responsibility for that.

I mean, the main concern for going ahead with thyroid cancer screening is that people are going to, either purposely or inadvertently are going to make bad decisions for themselves. My position is, you didn't have that concern when you exposed them against their will. And when you decided not to tell

them, you didn't have concern.

I mean, basically, what you were concerned about is how they would react publicly and politically. Isn't it time that we just stop withholding information and choices from people and give them an opportunity to take control of their destiny.

I'm fine with them making the wrong choice, but if it's their choice, I think there is ethically an argument that it belongs to them and not to us.

DR. KAPLAN: The last thing I just want to mention so everyone is clear, because we started with this related to the NTS, is that those doses that were estimated for people were not included in the dose estimates for the HTDS, even if you were exposed to fallout from NTS here in the Tri-Cities or anywhere in the study area that HTDS covered. Those doses were not added into the doses from Hanford's HEDR study. I raise that because there are a lot of other confounders that weren't included in doses, things like medical x-ray.

MS. STEMBRIDGE: I want to take a few minutes into our next agenda item to get these questions aired because the discussion about medical monitoring, I think will be informed by these questions and answers. Herman.

DR. CEMBER: I have a comment first and then a question. At the Albuquerque meeting recently at the Health Physics Society there was a paper given on screening for thyroid. Were you there? Did you hear it?

MR. CONNOR: No.

DR. CEMBER: He compared palpation with ultrasound and he said both the sensitivity and the specificity of palpation was so low that it was really harmful to do such a thing because it masked real information and gave wrong information.

They compared the palpation results with ultrasonic measurements on the same people, and the results were vastly different than the ultrasonic ones that were confirmed by biopsies and so on. So he said palpation was really worse than useless as a screening method.

MR. CONNOR: In other words, that if you're going to do screening that ultrasound was superior.

DR. CEMBER: Yes. And the question I have, the exposures of the people from the NTS and the Hanford releases were many, many years ago, and the number of predicted excess cancers were enormous. I mean, when you get to 50,000 as the most likely number, and thyroid cancer is a relatively rare kind of cancer, so 50,000 should be seen. Could you tell me how many cancers, excess cancers were actually seen with this range of 11,000 to 200,000.

MR. CONNOR: I can't grab that number for you exactly, but it's interesting that Ethel Gilbert, at the National Cancer Institute, did attempt a geographic, an ecological analysis of this. We're fresh off -- Rachel and Trisha and I are fresh off a presentation by Dr. Jan Beyea who has followed this issue closely and says Dr. Gilbert found statistically significant excesses of both incidence and mortality just looking at the geological pattern.

And he says that that is surprising because we usually don't expect those kinds of findings in ecologic studies. I mean, they have real problems with study design, which you're just looking at geographic criteria. But he did say that it was a signal that needed to be followed up with more tightly

controlled epidemiologic analysis.

DR. CEMBER: Well, the large numbers were based on essentially ecologic kind of considerations. I just wonder, how many did she find?

MR. CONNOR: I don't know the number that she found. It's looking at the differences between the background incidence and the numbers and the excesses seen. I don't know what those numbers are.

You're right, in the sense that she is looking at -- ecologically looking at geographically where people lived and what the thyroid cancer incidence is. I guess the point I was making is that in terms of constructing epidemiologic studies, that is usually regarded as the most inferior way you can distinguish expose from unexposed people and even before you draw any conclusions about actual doses.

MR. CAMERON: I think what we see is yet another example that science is pretty useless in solving social issues. You know, if we construct this as purely a scientific question, any epidemiological study, no matter how well constructed, is going to leave enough uncertainty that we will have handles to grab on and pull it whichever direction that we want to go in and believe in. Epidemiology certain biases towards the no hypothesis, that nothing happened. I think that is an important consideration, which is not to say that we should ignore the findings of the study even though it is one study and has its limitations.

But I think it points out these differences that this whole exposure issue, downwinder issue, is really more than just a science and technical question. I think people rightly have the feeling that they were assaulted and insulted and their rights were offended. I think that is part of the justification that people are looking for. And they are not going to find an answer to that in an epidemiological study. If this exposure had been created by somebody named Ben, I think we would be looking at it at an entirely different way of how people were assaulted and insulted.

I think we can't disregard the social implication to people of what has happened to them. Science is good, but it's extremely limited in resolving these issues.

MR. CONNOR: That is a good point, and that is actually the conclusion I reached in Burdens of Proof is that -- well, belatedly, is that if we're using epidemiology for social accountability purposes we're really kidding ourselves because it's not designed to do that. And the limitations -- it's so rife with limitations that it just can't possibly play that role.

So, again, I'm sorry, I asked for that study. It was always going to be explosive because no matter what you do in trying to explain up front the limitations of an epidemiologic study, you're going to get headlines that look like jury verdicts. And the reason that I'm so critical of CDC is that they weren't prepared for this at all. They weren't prepared to put this study in the proper context, which I think they could have done while at the same time giving these researchers access to the full tableau of their first amendment rights.

MS. STEMBRIDGE: Okay. We will take Linda, then Judy, and we will move on to the discussion of medical monitoring.

MS. KEIR: I'm going to let Judith go.

MS. JURJI: Just a couple comments. I wish I were half as articulate as you, Tim Connor. I really appreciate you coming and saying all this.

The thing I wanted to say for the record is that, you know, the Hanford Health Effects Subcommittee has only been in existence for a few years. We did not have any input whatsoever into the

thyroid study. I think, that needs to be said because there will be members of the public who will be reading these minutes and they will be say, where were you guys when this was all happening? What were your opinions?

I think had we been in existence, I think we would have recognized right from the beginning that there were scientific hubras here that there was -- I know from having attended lots of meetings of HTDS when they presented to the public that the public was very, very concerned about the dose study and the uncertainty in those doses and so forth.

So I think it's kind of -- I just have to say I think it's been kind of a tragedy, in a sense, that this committee, which is more -- has more diverse representation of both science and public that we were not in existence at that point. Because if nothing else, we would have probably said, "Yes, maybe you need to try a linear dose response study, but there needs to be other kinds of studies too. We shouldn't put all our eggs in one basket." I think that is kind of what we did with this study.

And nobody 10 years ago thought the study would take 10 years. Had we known it was going to take 10 years, that was even more reason why I think we probably would have fought to have other studies or other kinds of parallel projects like medical monitoring and a disease registry and that kind of thing going in parallel.

I mean, the tragedy is that we had to wait 10 years for this exercise in scientific hubras.

MR. CONNOR: Judith, first, I want to thank you from the bottom of my heart for all your work and the stamina that you have put into this issue. Believe me, I've just been -- a part of me is really shaken and deeply saddened by what happened to you and others who have really exercised incredible stamina in your citizenship in participating. You had a right to deserve a lot better and you didn't get it.

I think professionally, to the extent that I'm going to stay on the advisory committee, my term has been over for years. What I would like to do is answer two questions: What happened? Why was this thing handled like a top secret document? Why wasn't Lynne approached and said, "Look, given the social context of this study, we have some real problems here." How do we release this? Obviously, you can't ask the scientist at this late stage to change the results because the public won't like them. But you can certainly do a much better job of putting it into context.

Mr. Cameron's points needed to be said. Where was anybody from Fred Hutchinson, the Centers for Disease Control, saying to them, not just the New York Times, but to anybody who was publicly interested in the study? It didn't happen. And that shook me the deepest on this. I think I have to deal with that professionally. I think we, as the ACERER, need to evaluate what went wrong here and make sure that it never happens again. But my fear is that it might be too late. This might be one of those episodes where we simply lost the franchise and the public support to continue doing this kind of work.

MS. KEIR: I think that Tim and Judith and Louise and Buck have, basically, covered it much better than I would have covered the points that I wanted to make.

So I guess I got a little bit -- we start out with NCI and now we have gone off -- it is all part of the same dosimetry and results question, but we also have time on the agenda for HTDS discussion later, so I think maybe I'll just save what I wanted to say that was different from what they have covered when we take up the HTDS study directly.

MS. WOOD: Thank you. And I'll be brief. I've just wanted to say, Tim, thank you very much for writing your book. That is a tremendous, tremendous book. I'm still going through it and dissecting it. It's just fabulous. It's so much to learn from, and thanks.

Also I want to say on record, just speaking from myself, not as a subcommittee member, that in my dismay and disagreement with the Hanford Thyroid Disease Study, first, one thing I will say, and,

again, briefly, that I feel that the study possibly did not even address the proper counties. I think it might be more inconclusive because it actually did not cover a larger part of the area that -- you know, for example, I grew up in Grant County. Well, I knew so many people in Soap Lake, right in the middle of Grant County that had thyroid problems, thyroid disease. A lady that I knew was diagnosed years ago with thyroid cancer and ultimately died from thyroid cancer. And she grew up in Soap Lake.

When I talked to Dr. Hoffman about that, he said, you know, "There was something there," you know, obviously. This was before the results of the study had been revealed. So, anyway, for what it's worth.

MR. CONNOR: Thanks for the compliment on the book. And I hope there will be a sequel.

The other thing I want to say is, I got a call from CDC yesterday as I was sitting at my word processor finishing a letter to a man who grew up on a farm in Waverly. Seven children, they drank a lot of milk from their family cow. All seven have thyroid disease. He calls me up and says, "What is this exploitative deleted study? Why are they doing this to us?"

What are you going to do? I mean, I wrote him a letter. I told him that I called IDA to get him his doses. I told him I wanted to talk to him and his family at some point. But he is the kind of person that -- he is so disenfranchised by that experience. Here is a man that is having health problems today that could kill him. He doesn't want to go to talk to his own doctor about it.

So, personally, this is a really difficult period for me. Even though I'm proud of the work that I've done, it's really tenuous and sadness and disappointment now. But it's nothing compared to what many of the downwinders are dealing with, but it's something that I'm dealing with. But thanks for the compliment nonetheless.

MS. STEMBRIDGE: Thank you.

MR. CONNOR: Thank you for having me and putting up with my tirades.

MS. STEMBRIDGE: This is great segue into our next agenda item which is now, what, for Hanford Medical Monitoring. You received some information in your premeeting pound-o'-paper on this subject. And Dr. Spengler will walk us through this.

I want to take a couple minutes while Bob is setting up. Many of you may have noticed that Jude Van Buren is not with us today. Her father-in-law passed away so she was not going to be able to be with us at this meeting. And what that means is that someone within the PHAWG will have to rise up out of the mist and convene that workgroup this afternoon for what will be a very important discussion. So I urge those of you who are on the PHAWG to think about. Glyn Caldwell was not able to be with us in person. He had some travel snafoos and job crises. I understand that arrangements are being made to patch him in by telephone conference call for the HTDS conference this afternoon.

I just want to address the fact that Owen Hoffman's name was listed on the agenda for this most recent discussion about the NCI study. The reason that Owen is not here is that his initial request for compensation far exceeded what ATSDR had to pay him. And in the course of negotiating, he determined that he had other pressing work needs and hence made the subsequent offer about coming at some future time. And that explains why the panel consisted of one person, which is not exactly a panel. But, nevertheless, I think that Tim did an admirable job.

MS. CAMPBELL: I want to make one quick announcement before everybody breaks after these next discussions. There is a sign-in book, a little green book that Marilyn has that is sitting outside the door.

Remember from the last meeting, sign that book, get your consultation fee. And for all members of the public who are here, please, if you would like to be on our mailing list, and you are not already on it, talk to Marilyn, and she will make sure that you start getting information that we send out to the committee. Thank you.

MS. STEMBRIDGE: Dr. Spengler.

DR. SPENGLER: Thank you, Lynne, and good morning again. In your pound-o'-paper, as Lynne referred to it, there was a two-sided fact sheet and that will, basically, be the gist of my presentation or overview with you this morning. And I welcome any comments and questions as we go along. And then also in your pound-o'-paper was a cover letter from me on top of a draft document dated January 25, 1999, which provides more background and detail on the revised proposed Hanford Medical Monitoring Program.

By way of introduction, in the back of the room, Greg Thomas, if you could stand up real quick, representing ATSDR in our Seattle regional office will become the day-to-day project officer, for this program when we finally get funding from the Department of Energy and have a contractor in place.

By way of introduction to this issue, back in February of '97 was when the agency made its public health policy decision to go forward with the Hanford Medical Monitoring Program.

Since that time we have been faced with funding difficulties with the Department of Energy. But more importantly, since September of this past year, two new issues have arrived. One, which you've already heard an introduction to from Tim Connor has to do deal with the Institute of Medicine and their recommendations.

And, second, as you've heard -- and you'll get more information on this after lunch today, are the findings of the thyroid disease study. In terms of the current status of the Hanford Medical Monitoring Program, it has been substantially modified. Again, in order to address the specific issues and concerns raised by the Institute of Medicine, as well as incorporating, as best we can, information pertinent from the Hanford Thyroid Disease Study, knowing full well there will be additional information as this study evolves, in terms of different segments of the analysis coming out that will be pertinent and appropriate for the Medical Monitoring Program, to incorporate when it becomes available.

Secondly, the revised program has been carefully reviewed by the Centers for Disease Control and both CDC and the Department of Health and Human Services, high-level executives have been briefed and the program has gotten support for continuing on in this development.

I'm coming here today as the first opportunity to have a face-to-face discussion with you about the proposed program. A lot has evolved in a very short time over the last couple months. So what I have sent you is a document. I'm looking for your comments. If you want to make them in writing that is great. Then we have a number of issues that we think the Public Health Activities Working Group may want to address this afternoon when they meet.

There are a number of reasons to proceed with the program. I think Tim has covered a number of these already. But let me just briefly go over these with you. First of all, we know from the dose reconstruction study that was completed back in '94 that there were significant releases from the facility.

There may be a fair amount or a large amount of uncertainties attached to dose estimates. But still, nevertheless, there is still an indication that there were releases and certainly some portion, we may not be able to identify them, but some portion of the population received high-level doses.

Second, I think you will hear more discussion about this after lunch, but the thyroid disease study, as has already been discussed this morning, is certainly one of several studies that have reported on the relationships between radioiodines and the occurrence of thyroid. And I think that you will hear more about that this afternoon. There is also a high level of concern in the surrounding population, again,

typified by the letter that Tim Connor is trying to write a response to.

I apologize for the amount of text, but this is just coming right off this two-page fact sheet, so you don't need to take notes or whatever. Other reasons to proceed is, given this new information, certainly the public needs to have a better understanding of what has happened, what these findings might mean to them. They also need to have better information on the risks and benefits of medical evaluations or screening for thyroid disease, as well as understanding the uncertainties in those types of evaluations.

And then last, is that the Medical Monitoring Program, again, has been substantially modified to address the concerns of the Institute of Medicine and incorporate the relevant findings from the thyroid disease study.

The program, if you want to conceive of it as sort of its major components, is primarily three issues. One is making sure that an information education campaign is certainly a key component of the program. It will be provided for eligible individuals or those seeking additional information. It will be targeted to their clinicians participating in this program to ensure that there is a good understanding of the associated risk, the potential harms of screening, and then as a result of that information, proper and appropriate informed decision making can be made by the individual in concert with their physician.

Second, by way of a major component is, once these individuals have decided for themselves that they want to go forward with an evaluation, certainly on a voluntary basis, they can seek this, and the program will be providing high quality medical evaluation services to this eligible population who seek the examination.

And then third, we have incorporated a number of mechanisms to reduce the potential harms and risks of thyroid cancer screening, and those are addressed in more detail in that 20-page document that you received.

In terms of key modifications from the original proposal, as that existed about two or more years ago now, we believe that we can certainly rely on existing and various approaches to do the outreach activity to reach this eligible population.

Second, as I've already said, the risk communication and education is a key component of the program. And, thirdly, the medical evaluation will be a high-level exam. It will still include thyroid palpation as the primary modality. And I will address Herman's comment in a minute about the recent Health Physics Society meeting. It will be eligible populations who seek it on a voluntary basis.

Continuing on with the modifications, in terms of thyroid ultrasound, the current proposed program is that ultrasound would be used as clinically appropriate. In the formal proposal, it was offered to a high exposure subpopulation within the eligible group. The reason for this is, in concert with the concerns of the Institute of Medicine, the concerns being that thyroid ultrasound can detect a very high proportion of individuals with some abnormality or a nodule of any size. And a very high proportion of those nodules identified by ultrasound would be small, and at that point in time are not considered to be clinically important.

So the reason or the rationale for going forward with the thyroid palpation or the physical examination of the neck is to assure that palpation will identify the larger size nodules. Now there is very extensive literature that is being added to now by the thyroid disease study that compares the same population that has been examined by palpation as well as given thyroid ultrasound. We know that palpation is very insensitive to the smaller nodules, but as nodule size increases and becomes palpable, in other words, you can feel it through the physical examination, there is better concordance between the two techniques.

The issue and concern of the Institute of Medicine is that the thyroid ultrasound will identify many, many small nodules, and it becomes a problem in a sense that, what do you do? I mean, do you go ahead and do a biopsy of these small nodules and run the risk of not extracting enough material to make a pathological determination and resolve this person into thinking that, well, I know there was something. I

had the biopsy, let's go ahead and go to surgery and get this thing done with. So that's what they are trying to avoid through the use of the thyroid ultrasound.

In addition, another key modification is in the actual protocol. The original proposal was to use a very experienced expert panel as part of a working group to help formulate what the final protocol is going to be. In addition to that, because of the thyroid disease study's experience in holding down the number, as Tim Connor alluded to, the inconclusive findings from the biopsy, that we will incorporate as best we can their protocol techniques.

Then, lastly, there is a program evaluation component that will assess not just quality assurance issues, but how well the program is performing at the end of the fifth year, make a determination for its continuation if warranted. So that is -- those are the main key modifications.

In terms of the development process, it's still a two-stage or a two-phase process. The first year -- when we get funding from the Department of Energy and we have a contract awarded, that is the time which the clock starts ticking, whenever that time is, but that ends up being roughly a 12-month period of time to get the program fully developed and ready to intake the individuals into medical evaluations, as well as to perform the outreach activities through the educational campaign, which will be the second phase during the second to the fifth year of the program.

So I'll just stop here and entertain questions or comments. Before I do that, there is one other thing that I wanted to cover with you. I just wanted to suggest the types of feedback and discussion we would like to have in the PHAWG -- sorry, the Public Health Activity Working Group for this afternoon. One is to impress upon you-all if you have concerns or questions or issues in regard to the draft document you have, we would appreciate your comments in writing. And we will try our best to incorporate and be responsive to those.

Second, develop an ongoing coordination activity with this subcommittee as well as the Intertribal Council. Third, wrestling with the issue about how to assure when we have this program undergoing this development, which would be during that first 12 months, what process would this group envision to assure that we have good public relations. As we go along, how do we keep the public informed? How do we get that involvement from them over the course of that year? I think that would be helpful input. Then lastly, if you all want to consider a resolution or a recommendation for supporting the modified Hanford Medical Monitoring Program, that would probably be appropriate as well. So that is where I will end my discussion this morning.

MS. STEMBRIDGE: All right. Let's entertain some questions. The purpose of this agenda item is to provide for all of us an overview of what has been evolving with the Medical Monitoring Program. What I am envisioning is that this will have a much more detailed and thorough discussion in the Public Health Activity Work Group Session this afternoon. As we have in the past, we will be looking to that work group to come back to the full subcommittee with recommendations and advice on how to proceed and what we might do as a plenary body.

As always, we are free and, in fact, encouraged to submit individual comments and suggestions, but parallel to that, I think there may be some appropriate plenary pieces of advice and work that we want to forward to the agencies.

So with that, we will take some questions. I had Del's card, and then you-all were kind of a tie.

DR. BARTH: What I would like to ask is, will blood analyses be done routinely as part of this or will it be done in special cases?

DR. SPENGLER: It's part of the examination component. So in addition to the palpation that I mentioned earlier, there will be a medical history that gets done, the palpation, the physical examination,

blood work to assess the functioning of thyroid and parathyroid glands, and then if there is a need to follow up for some abnormality, then that is also worked out.

MS. STEMBRIDGE: Marlene.

MS. NESARY: I have kind of an economic question. I came on board in December so I wasn't really party to the earlier drafts of this program and how it would look. So I was especially interested in tracking what you listed as the changes. And as I read the document and heard you, those changes consist primarily of a shift in priority from what had been perhaps a major budgetary focus on hands-on medical service to downwinders and a shift into a priority funding of risk communication efforts and education efforts. Could you tell me if that -- the portion of the budget, what was it before? What is it now? And also what is the projected budget for this five-year study?

DR. SPENGLER: I will start with the last item first. The current estimate is roughly \$28 million for the full five years, which is certainly a drop from the 48 or close to \$50 million in the proposal. The rationale behind this is several things. One, is yes, the focus is on outreach and getting the educational materials to the individuals and the physicians. But at this time we don't know what to anticipate in the way of how many individuals on a request basis will want to have those services. We don't have a good handle on that as yet. But we're anticipating that instead of, for example, in the first proposal, we took the worst-case scenario -- I shouldn't use worst case, but it's the highest funding situation, is what I meant to say, is 100 percent participation in all areas. And so what we have done is, we've tracked that backwards and have estimated what we might want to do. So what we're looking at now is perhaps a funding reduction of about 42 percent across the five years, and that is your best estimate. It's a government estimate. But when we get into the program, modifications can be made at a later date. I think we have that understanding with the Department of Energy.

MS. NESARY: So am I hearing you correctly that the reduction in the estimate of the total budget comes mostly in downsizing what you estimate to be the number of people who will self-select out of this group?

DR. SPENGLER: Yes.

MS. NESARY: I'm wondering if the experience of the dose assessment program isn't maybe instructive there, and you might get higher than you imagine. I'm also wondering, again, what percentage now of that 28 million you intend to devote to outreach and communication.

DR. SPENGLER: I don't have those numbers on the top of my head.

MS. NESARY: Half, two-thirds, one-third, ballpark.

DR. SPENGLER: I'm guessing somewhere around a third or more, but there is a lot of activity that has to take place. If you will kindly go to the 20-page document and look on page -- if I can find it quick enough, page 8. You will see in that first phase there is a fair number of activities. This is just major headings of these activities on page 8. You will see some bullets there under Phase 1, and some bullets under Phase 2. I want you to be aware that there is a lot of activity that has to be done before this program can really appropriately intake people into the program.

MS. KEIR: I'm a little bit puzzled in light of the fact that there has been so much criticism of the Hanford Thyroid Disease Study and the fact that not only the Hanford Thyroid Disease Study, but so far it appears that the Medical Monitoring Program has been inappropriately limited simply to thyroid outcomes when the medical literature shows, and recent surveys by Northwest Radiation Health Alliance and others have shown that particularly early hypothyroidism has many other effects on development, reproduction. I just -- this is just one example. This book by Allen Benson dates from 1989, and it talks about developmental effects of fetal hypothyroidism. I'm sort of flabbergasted. I'm not on the PHAWG.

I'm not on the workgroup that deals with medical monitoring, but I'm looking at this proposal, and I guess I could divide my question into two parts. The first being, why are you allowing the disputed results of the Hanford Thyroid Disease Study to affect medical monitoring? My second question has been mostly covered by Marlene, in that, once again, it appears that the majority of the money is going not towards hands-on clinical evaluation of downwinders or, let alone, treatment, but towards administration, risk communication. There is, really, I think two parts to what I'm asking you. Which would you like to deal with first?

DR. SPENGLER: I will deal with both parts. In terms of the health conditions other than thyroid and parathyroid conditions, we did address those concerns when we did the original version of this program. And this group, over two years ago, was well informed and involved. You had representation in the full workshop series that we had along with the experts in sort of working out what this program would consist of. That's what we have ended up with. We haven't modified anything along those lines. There is a medical history that is taken, which is a complete medical history.

So that, in and of itself, may identify important things of concern. The issue about no-hands on in the first year is also emanating from the way that we have designed this program from the outset with this group and other experts' input, Linda. And the hands-on has always been a Phase 2 situation occurring within 12 months after start-up of the program. That is where the bulk of the funds are in the medical evaluations in year two. The budget differs across the years, but the reduction that you're seeing here is because of the certainty of the numbers of people who may, in fact, participate in the program. We have reduced the out-year funding significantly. But that doesn't prevent us to be in a better situation at the end of the first year or part way into the second year of the program in finding out what the demand really is, then being able to respond back to DOE and say, look, we have this amount of demand and we project that we may or may not be able to meet it with our proposed budgets. So that is for later discussions with the Department of Energy, but I just want you to understand that.

MS. KEIR: Thank you. It puzzles me that the Hanford Thyroid Disease Study, in its present state of criticism and flux from independent groups and from downwinders, why would it influence the Medical Monitoring Program in any substantial manner?

DR. SPENGLER: I don't think it has. I think there are certain strengths, though, that we have been able to identify coming out of the study, particularly the evaluations components and how carefully they were conducted. I think that we have a great deal to learn from that and to incorporate, as best we know how, those successful strategies into a mechanism that is not a study situation any more, but involving a number of practices across the country.

MS. KEIR: When you say in the first line of the modifications, HTDS findings will be included, can we trust that the findings will be included and appropriately balanced with the weaknesses and criticisms that have come to light?

DR. SPENGLER: Linda, I think I can safely say, yes. It will be balanced with other studies that we know about in the literature.

MS. KEIR: Thank you.

DR. SPENGLER: You're welcome.

MS. STEMBRIDGE: Judy.

MS. JURJI: A couple questions and comments. I have to say, Bob, I was very surprised that we did have kind of a configuration of this project before it had been brought to this committee.

DR. SPENGLER: I understand.

MS. JURJI: That kind of concerned me. The other thing that concerned me was that the National Academy of Science hadn't done their peer review of the thyroid study yet. I guess they have 90 days to do it. Who knows what they will really take? I certainly don't want to delay the Medical Monitoring Program. But I was curious why you didn't take into consideration the National Academy of Science and their input regarding the thyroid study. And I'll let you answer that in a second.

I'm assuming the iodine disease subregistry, which is the parallel project is unchanged at that point. It's still intact?

DR. SPENGLER: Yes, it's still unfunded.

MR. JURJI: Unfunded, but intact. It hadn't been altered in any way. The business of risk communication, getting the bulk of the funds is a concern because risk communication is sort of like dose reconstruction. In my mind it is such a questionable endeavor in the sense that, I guess, I share with Linda a concern that the risk communication would involve not just relying totally on the thyroid study, but the data from all the other sites world wide, Chernobyl and other things like that. I suspect that is the case, but I guess I need some affirmation that that is the case.

The last thing being ultrasound. I'm concerned -- I have to admit, I understand the problem with ultrasound, but at the same time, if you look at the thyroid study results, the one place that they did actually have sort of a dose-response relationship was with those thyroid nodules that were found by ultrasound.

It remains to be seen in follow up whether those thyroid nodules that they found in HTDS will develop into anything of significance and cancers and that kind of thing. So, I guess, I want to leave that ultrasound question open, that maybe it should be held in, kind of, on the back burner as something that can be revisited if new data comes forward.

DR. SPENGLER: I think if you-all want to make that as a recommendation, I think that would have the most weight. I think that that would be a mechanism that you could use to sort of say, please don't forget this, and maybe at a later date, when more information is available, we would do that.

I think it's appropriate to recognize that we're talking about a five-year span of time here, a lot can change in five years in what we know or don't know about thyroid ultrasound capabilities. So I think we will hold that open, but I think a recommendation will be helpful.

In terms of the National Academy and other critiques or other reviews, certainly, we will still be awaiting like you-all in terms of looking at what those reviews come up with, and when it's appropriate or

has an important impact on the proposed programs, and we could come back to this group and discuss that some more.

I don't know how else to respond to your questions. I may not have answered all of them. Was there something else that I haven't --

MS. JURJI: Why did you proceed ahead of this committee? I'm just curious, was it a matter of timing regarding getting funding?

DR. SPENGLER: It was an evolution, a very quick evolution of the facts of the recommendations of the Institute of Medicine. That's where we started because they came out very strongly against any form of thyroid cancer screening. However, one of their recommendations was priority given to information and education, which is the risk communication component. And provided the people are properly informed, then they felt it would be okay -- they didn't say this directly, but they thought it would be okay if individuals on their own decided to have further medical evaluation, which is appropriate.

So we started this as a response to the Institute of Medicine. And we spent a lot of time and energy on that only. On the 24th or 3rd of December, I was first informed of the results of the thyroid disease study. We have been working very closely with the National Center for Environmental Health in trying to better understand what those findings mean; what impacts, if any, they might have on the proposed program.

So I think we've been responsive as well as we can and realize that it's only the 25th of February, and this is our first chance to have this meeting. It's much easier for us to come to you with something in writing and have you react to it, as opposed to not having done any of this and say, well, now we have to respond to the Institute of Medicine's recommendations. What are we supposed to do, et cetera. So the agencies have been, I think, very proactive in trying to be responsive to the critique of the Institute of Medicine. That is where this all started.

MS. STEMBRIDGE: Rachel.

MS. MOSES: Bob, I think you mentioned during your presentation you would have the involvement of the Intertribal Council on the Medical Monitoring Program. How do you envision that involvement?

DR. SPENGLER: As I mentioned yesterday at the Intertribal Council Meeting, in my presentation there, I was certainly interested in working with the tribes, but also recognizing that the Spokane Tribe, according to the eligibility area, certainly their population is included in the Medical Monitoring Program.

Ed Liebow reminded the group that there is also the opportunity, through the Individual Dose Assessment, that people could become eligible for the program in other tribal situations. So I'm leaving the door open and next time we meet, we can spend more time on this, as you would like to do, as part of your agenda. I'm happy to do that. Greg is happy to meet with the tribes. However, we can arrange it.

So if you could relate to us what that mechanism is you would like us to use, we would be happy to follow it.

MS. MOSES: I just wanted to have that clarified for any of the tribes that had a similar question that I had, because I know on our cooperative agreements that is not one of the -- unless it's included in a work plan, it's not really an existing function that we have to undertake.

DR. SPENGLER: I understand.

MS. PRITIKIN: I have a compliment and a question. So would you really have the really good stuff first or the question first?

DR. SPENGLER: Question first.

MS. PRITIKIN: Question is regarding your Page 6 in the document that we have on the revised proposal. It talks about outreach efforts. And it now states, the revised wording is, "That individual tracing methods from historical records, e.g., birth records will neither be possible nor necessary for such a large eligible population considering how much of the population already receives information," et cetera.

I feel that one of the big pluses of both the medical monitoring and exposure subregistry programs is notice, notifying people who may not even know that they were exposed or at risk. I still have to say this, you guys, at significant risk of adverse health effects from radioiodine exposure. I refuse to drop that until proven otherwise.

So, therefore, I'm concerned especially for the folks outside the Pacific Northwest that if we are going to cut back on outreach, we may not provide that important notice component of both of those programs. So I just wanted to state that. I don't need a response yet, I was just thinking about that.

Then the compliment. I think what you, Bob Spengler, have been through, tough times lately during the IOM review of the proposed Medical Monitoring Program and during this continuing funding impasse from the Department of Energy, I just am very impressed by ATSDR's humanistic and compassionate and consistent response under a whole lot of undeserved pressure.

I think as Tim Connor said, you guys were censored, and you didn't deserve it. And this program is a citizen and agency program. I am really impressed by the way you and Greg Thomas and ATSDR have just stuck to it and gotten us through all this. And these revisions you are making, other than that one outreach comment, makes sense to me, but you really have your heart in the right place. And I want to thank you, because there has been a lot of stuff happening lately where agencies appear to be ignoring the welfare of people like us. I think that you deserve that on the record.

DR. SPENGLER: Thank you, Trisha.

MS. WOOD: I am wondering if there is going to be any difference in the medical monitoring people that were born there or people that lived there in the specific time period, has there been a significant change?

DR. SPENGLER: No.

MS. WOOD: Okay. Great. Thank you.

DR. KAPLAN: I would like to clarify something, because I see what the modifications are and I want to just assure what was originally proposed in our packet is still here.

Originally, it was proposed that there would be an initial examination, follow-up visits, and periodic examinations so that people who were screened, who had no problems at the time of initial screening, would be rescreened in two years. I wanted to clarify whether or not that remains within the program.

DR. SPENGLER: The current program does not include the automatic two-year rescreen. And we're going to rely on the clinical policy workgroup to help define if there needs to be a rescreen, and,

secondly, what sorts of follow-up examinations ought to be offered. So we're leaving that open to the policy workgroup.

When we arrived at this decision two or more years ago, at that time we still didn't know what the frequency ought to be. So it's an open question, and it's left to the policy group to help work it out.

DR. KAPLAN: Well, I'm a little confused now. There was a decision that it was proposed that two years would be the time frame. What made you drop that? What information influenced now leaving it to the policy group?

DR. SPENGLER: First of all, again, if you look at the Institute of Medicine's critique, there doesn't appear to be literature that can be helpful in deciding what that frequency ought to be. We're kind of like at the front end of where breast cancer and cervical cancer screening was a long time ago. We know there are recommendations from various groups, but there doesn't appear to be any literature to support it.

So we're going to rely on the working group to help us with that determination. What else can I say? But as we evaluate the program, which we will be collecting information ongoing, I think that will be a help -- that will be helpful to us in discerning what sort of yield are we getting. Again, those who come back for the follow-up examination yet to be defined by the working group, we will determine what those yields are as well.

At some point at the end of the fifth year, we will decide if the program needs to be continued so that it is still being left open, but I think it's being left open so that we can use, as best we know how, the information that comes out of the examinations and what comes out of those exams is what we learned from this population. So that will help drive, I think, the frequency in the follow up of examinations.

DR. KAPLAN: I think that it's significant to propose something and then to say, well, it wasn't clear why we exactly picked two years as the rescreen period. Clearly, if you look at screening recommendations -- and I noted in Tim's comments to the subcommittee that he gave us, he cites a couple different groups about screening recommendations. And if you look at the U.S. Preventative Services Task Force, which looks at a variety of screening activities, one of the things it does is go through all the different groups and all the different recommendations and when all is said and done, you can probably find any recommendation that fits that you want to pick whether it's for thyroid or breast cancer or cervical cancer.

That study is looking a little at evidence-based prevention screening recommendations, and I think it's clearly very confusing. I'm a little concerned, however, about an original proposal that had a recommendation in it that now steps back and says, well, people weren't happy with that, or the review said there wasn't a reason for doing that, and we will leave it open. I guess my ultimate concern is, if you leave it open, and you don't get refunded after five years, you may have missed an opportunity to at least have one rescreen of that population.

And so I would ask the PHAWG in their deliberations this afternoon to seriously consider a strong recommendation for at least one rescreen of this population so that there is that opportunity for them to have it. And, clearly, this is not the only opportunity for people to be screened. I recognize many people have their own health care providers and may never choose to enter this program. But for those people who would otherwise not be screened, I think at least one opportunity in that five-year period is warranted.

DR. SPENGLER: Thank you for our comments. I'm hopeful that during the PHAWG meeting, the Public Health Activities Working Group meeting, we can have further discussion on this. As you can

see, it's still a draft, so this is a good opportunity to get that in.

MS. STEMBRIDGE: Laura, I know your card is up, and my watch indicates that it's noon, and we have half an hour here for public comment. So if I could, I would like you to hold your question, and we'll take public comment.

We don't usually sign up for public comment. This is a slightly different procedure than the Hanford Advisory Board where people sign up. But I know that Tim Connor and Norm Buske did sign up as they came in this morning, so I would like to have them come to the microphone first, and then we will take additional public comment.

I would like to ask each of you if you could hold your remarks to three or four minutes until we make sure that everyone has had an opportunity to speak, and then we will come back around and gather any additional thoughts.

You're welcome to identify yourself and your affiliation for the record. You are also perfectly welcome to speak anonymously on the record. For your information, we do have a court reporter here and a verbatim transcript of these meetings is prepared as a public document.

So, Tim, I will let you and Norm wrestle it out who goes first.

PUBLIC COMMENT

MR. CONNOR: I'm going to defer and speak last. I, obviously, had a lot of time to talk already. I did have some additional thoughts that I wanted to share with you, but I will wait and queue up at the end of the line rather than the front.

MR. BUSKE: My name is Norm Buske. The hat I'm wearing right now is Nuclear Weapons Free America. It's a scientific campaign of the Tide Center in San Francisco. This campaign does sort of its own thing. Its general objective is to disassemble the American Nuclear Weapons Complex.

Generally, I don't go to things like this. You haven't seen me on downwinder things because I consider downwinders have been through enough. And a campaign such as I represent doesn't want to beat them up some more. The reason that I'm here is Trisha Pritikin asked me to come. And I took a look at the HTDS and concluded that it didn't pass the giggle test as science.

I'm here to offer scientific opinion. And, basically, I'm going to say that it doesn't really make it a science. It's either bad science or not quite science. To the people who did this study, as a scientist, I say, shame on you.

Now, before I get there, I'm going to have to tell you a little bit about myself or those words are just off the wall. So I will spend a couple minutes, probably about three, actually, telling you how I got here. And then I will tell you in a little more detail why we don't make it past the giggle test.

My background is a master's degree in physics and a master's degree in oceanography from Johns Hopkins. I didn't get a Ph.D. so I wouldn't have "doctor" hanging on me, and I would feel like I had to defend it. This way I don't need a career.

I did about 1,000 accident investigations, and, basically, looked at why things go wrong from a technical viewpoint. I also do probabilistic risk assessments and do all these studies in a probabilistic context.

I'm a little familiar with Hanford. I got involved, actually, at a tribal invitation in 1983. I studied the river and downwind of Hanford between 1983 and 1991. Generally what I discovered was the establishment, which largely was the Department of Energy, did not connect reality, and their studies were highly biased. If you wanted to find out any relevant truth, you did it yourself, so I did. I did studies on the Hanford Reach, basically, working on groundwater contamination of the river. In some of those, as

people at the HAB know, I'm still arguing DOE is unable to connect with reality after a dozen years.

Regarding N Reactor, they were able to deal with the strontium-90 entering the river, and they simply had a disconnect on it, and finally, I made some mulberry jam in 1990 and sent it to them and they got the message with that and suddenly realized they had a little problem.

That work went on elsewhere. Actually, I did one other study; it was called Downwind of Hanford. We looked at fallout long-term radioactivity in crops and concluded it actually didn't look too bad and the crops were not threatened, which was really a pleasant, pleasant surprise.

From there I went on to other studies with Greenpeace. We shut the French nuclear test site down in the South Pacific. That was, actually, the world population did much of that, that happened in 1995. I put a radiological lab on the new Rainbow Warrior in 1990 and sailed it to Mururoa.

Let's see after that I did some other international studies. In 1995 Greenpeace asked me to do a return to Amchitka, which is the site of the world's largest underground nuclear explosion. We did it, five megatons in November of 1971. Greenpeace Peace was founded in opposition to that study, and it was the first time the world population had actually opposed nuclear weaponry. So this is a big deal.

For Greenpeace's 25th anniversary I got to do the science on it. We published that as a 25th anniversary called Nuclear Flashback. We showed that DOE was wrong, and they had radioactive leakage, americium-241, into the aquatic environment. The Department of Energy actually took that very seriously with what I consider good reason.

They concluded we had either made a mistake or had falsified the data. And so they set up an oversight study and, ultimately, bought \$2 million with something of an oversight committee like this, and I got to represent it as Greenpeace.

MS. STEMBRIDGE: One more minute, Norm. If you could please wrap up. At least this first part. I want to make sure that everybody gets a chance to comment.

MR. BUSKI: I will quit in a minute, and then I will finish up after Tim, if we make it that far.

What I found on it was we started out what looked like a study that was going to be done. Basically the government position at the start was that we were going to reassure the public and there is nothing wrong with zeros. The conclusion is, Greenpeace's oversight on this, that I had, was we could not do a scientific study. It wouldn't work. The reason is that science is not designed for a highly political regime. Basically, it tries to be objective and it won't work in a political setting. If you look at something like HTDS, it's not going to work from the outset because you can't use straight science. You need technological resources.

I'll break right there and maybe we will get some time to look at what, in detail, went wrong with HTDS and why its results are meaningless.

MS. STEMBRIDGE: Thanks, Norm. That is, in fact, our major topic after our lunch break. Our afternoon is going to be HTDS.

MR. DEBRULER: My names is Greg deBruler. For those of you who know me, hello. For those of you who don't know me, I worked on Hanford issues for the past 11 years. I'm a technical representative for Columbia River United and also work with Northwest Radiation Health Alliance.

Well, three minutes. So, what do I say in three minutes? Well, a little history so you know something that happened that you probably don't know what occurred. Back in October, later part of October, first part of November, I got a call from Rudi Nussbaum. And Rudi asked me if there was any way I could get a copy of the study results from the HTDS study. Rudi, of course, had been very critical about it. I had been critical about it, outspoken about it. Rudi knew that he couldn't get anything. I had

worked with Scott Davis on an EMF lawsuit. And he was giving me information, so I figured, I know Scott, I will call him up and talk to him on the phone. When I talked to Scott on the phone, I said very clearly, I said, Scott, "You don't want to do what they did with HEDR." And he said, "What's that?" And I said, "HEDR got together behind closed doors, put together their little risk communication piece, marched out into a room where all the press was there, made their statements. Said to the press, "Do you have any questions?" And I said, "How can you ask somebody if they have any questions if they have never seen the study?" And I said, "So what you're preparing to do is the same thing. You want to come in, not let anybody see the stuff, not ask any germane questions, and report your findings." I said, "Scott, don't do it, please. Please release this document to scientists and downwinders who are concerned so they have an opportunity to read it and ask germane questions at the time of the press conference, otherwise you will you fall into the trap which most agencies use the press for, to get out their spin on the results."

Now, I didn't know what they were going to come out with. We talked about that for probably 20 minutes. He saw the value of it. And he turned back to me, and he said, "I will relay this message to CDC and my other people, and we will take it under consideration, and I will get back to you."

About three weeks passed and by then I was getting ready for a trip, to go to Thailand. And I picked up the phone, and I called him. And I said, "Hello, what do we got?" He says, "We aren't going to release it." I said, "You're making a mistake, but you guys got to do what you got to do." He said that "I will notify you ahead of time." I said, "Make sure I'm on the list for the press conference."

The only way I found out about the press conference was I got a phone call from a downwinder who said, "Are you going to be at the press conference today?" The day of the press conference. I have been excluded off mailings, cut out of the process. I have been a critic. That is how they silence you.

Now a real quick comment on the HTDS study. If you remember what I had been saying for a long time is that what science has traditionally done with you-all and us -- and I'm part of the you-all out here, is they ask myopic, limited questions. And I've always said, "What are we doing for the benefit of the downwinders?" We have another example of science spending \$18 million of your money and doing what? Asking a question. "Let's see, what is the relationship between low dose and high dose and increase of thyroid disease incidence?" What? Can we see a difference between low dose and high dose? Their study came out and said what? Well, if you read the press, the press said, "No impact from iodine-131." That's not factual. The study asked a very myopic question. And, yet, they came out with banner headlines saying something else.

So I ask myself the question, "Why would a study that was asking this myopic question come out with banner headlines saying there is no impact? Why?" Well, I've got an answer for that, and since we're only allowed to talk for three minutes, you don't get to hear the rest of the story. But the answer is, the federal government does not want to have any more liabilities. They don't want to spend any more money on you. They would like to do study and research because that is how their foundations and their colleges and universities and studies and researchers get paid, but they don't want to put out one plug cent to help you.

So I ask you-all, in your deliberations, to think about one thing. Think about it's time for this government to put together a medical compensation plan for those that have been affected from cold war releases throughout this whole county. Because where you're going down the road right now is to do a piecemeal approach -- and of the downwinders that are here today will be dead and gone by the time we get down to helping them.

I will stop, then. If we have more time, I will give you the rest of the story, which are three other pieces you need to know because they are taking you down this road, and it's strategized and there is a purpose. Thanks.

MS. STEMBRIDGE: Thank you, Greg.

MS. OGLESBEE: Some of you know me, Gai Oglesbee from the Tri-Cities, and I'm a Berg downwinder. Judge McDonald made the separation a long time ago. There is the Camps, the Bergs, and the In Re Hanford. I don't know why he did that because we are all downwinders. A lot of them have been dismissed from the case, as you know, but I'm still alive and active.

I'm going to talk about something that a lot of you may not know, and how dare that DOE be out there campaigning as defendants to try to confuse the court. The court is not confused. The HEDR model isn't workable in the court any more. There is a specific reason for that.

The Berg/Camp plaintiffs propose to present experts and relay the studies establishing and applying atmospheric depression model entirely different and superior to the Gaussian puff air pathway ratchet model underlying the HEDR analysis. The HEDR air pathway model is incapable of reconstructing air dispersion over complex terrains with varying wind turbulence and in the constraints of other complex realistic conditions, among other factors.

The result is a model incapable of accurately assessing air depression patterns with sufficient geographic or temporal specificity to accurately assess population and individual dose related to the Hanford releases. The limitations of the HEDR model include, but are not limited to, the following: local wind turbulence cannot be factored into the HEDR air dispersion calculations. The HEDR model cannot account for changes in the atmospheric turbulence and changes in radionuclides rates of release.

The Gaussian base model must calculate radionuclides concentration as a mean value over a certain diffusion time and, therefore, requires an assumption of long sampling times. This makes it impossible to predict short-term radionuclide concentrations critical to accurate exposure and dosimetry assessments.

The Gaussian base model is unable to account for stagnant or calm wind conditions despite the present conditions in certain months in the region. The HEDR air pathway model is unable to account for mass modification from the plume by chemical reaction and resuspension, and the HEDR model is unable to account for vertical temperature radiants known to occur in seasonal inversion scenarios.

Here is what I want you to hear, because CDC and Fred Hutchinson knew, in August of 1997, that the scientific world had challenged their model. And they had very specific reasons why they did that. And if anybody wants to check, they can see CDC technical workshop discussion memorandum of August 13th, 14th, and 15th in 1997.

In other words, before they published this, now they call it a draft, they already knew that the scientific world and their peers would not accept it. Also, this HEDR model wasn't used in the Gulf War Syndrome analysis. What they used was this RCD -- let me find this, because I want to quote it. "The air pathway model star CD code is under license to General Electric and Westinghouse as well as General Motors, Ford and Pratt & Whitney." That's the new theory. It was used to diagnose the Gulf War veterans, and the HEDR was thrown out as a possibility.

One of the things that I want to express is that there is lots of us out here that are still downwinders in the litigation. There is probably only a thousand of us left, but there is many, many more that have been thrown out. And we would like to bring them back into it because this is not only from 1943 to present, it's continued on. And the ones that live at Hanford are being exposed daily. It's adding to their problem. Some of them are dying right now and some of them are already dead.

So I don't know what to tell you. I mean, what part of this story don't you know yet? I mean, if you don't know what is going on, who can teach you? You've got to get out and do the research out of this area and away from DOE who are campaigning as defendants, and they shouldn't be doing that. We are told to keep our mouth shut. Well, I'm not going to do that any more because they are not playing the game the way it's supposed to be played.

So that's all I had to say. There is five of us who did take tests. It is in court, and we are all exposed to ionization radiation that puts us at high risk and causes us a lot of problems, and our families

are suffering for it. Thank you.

MS. STEMBRIDGE: Thank you.

MS. SUTHERLAND: My name is Kay Sutherland. I'm a downwinder from Walla Walla. I'd like to remark on the studies and committees and everything that it designed to fail for downwinders such as HTDS. It took them 10 years to decide how they were going to manipulate and make downwinders believe in this thyroid study. It cost \$18 million while they were doing it, so they had a nice paycheck.

I'm tired of seeing this kind of study done with wasted money without helping one single downwinder. We have another one coming up, which is the Individual Dose Estimate. Now, in their individual dose estimate, they say that if you drink processed milk, homogenized milk, that it takes the radionuclides away. They are saying that you only have to drink raw milk in order to have your Individual Dose Estimate. What a bunch of garbage.

Anybody who has read anything knows that processing milk does not clean it, does not take away radionuclides. Then in the thyroid study, they have Molly, the moo cow, and then they have Fred, the bull, and Tony, the gay blade steer all in the same pasture. But somehow Molly Moo Cow was the only one that ate contaminated grass. Of course, our vegies in the garden area didn't get any uptake, and if it did, it was only the leafy green part from the carrots or the potatoes.

Come on, we're not that stupid. I would like to know how Tony, the bull -- Fred, the bull and, Tony, the steer, did not eat contaminated grass. We did not eat contaminated meat from them. The chickens didn't have any uptake of anything so, you know, your studies are just worthless. Thank you.

MR. CONNOR: I'm Tim Connor again. What I brought with me today is a letter that was composed earlier this month to Dr. Richard Jackson, who is director of the National Center for Environmental Health. It makes -- some will find this letter too strong, some will find it not strong enough, but it was an attempt on my part, with the help of Trisha Pritikin, J. Truman and others, to register a strong protest about how the Hanford Thyroid Disease Study was released.

I will just read you some of the headings in the letter and be short with it. One of issues it addresses is CDC's failure to provide any context and perspective with regard to the study results and says that was irresponsible. Another is that CDC officials should have intervened to correct the contract scientists and the significance of the study's results were clearly overstated. Another is that key technical concerns affecting the reliability of the results should have been disclosed and addressed and so on and so on.

I have only brought five copies of the letter with me today. It already bears Trisha's and mine and Rachel's signature, as well as other folks who were present at a meeting in Atlanta last week. I just wanted to read you some of the states that were represented on this letter if I can find it -- from my memory, it's Tennessee, Texas, California, Washington, Idaho, Ohio, New York, Massachusetts, and I think there may be one or two others.

Anyway, so we have a number of people from around the county. Those of us who put the letter together thought it was important that it not just be seen as something from a group of people on the Columbia that are disgruntled, but really understood this type of study, and how it was released poses a threat to the creditability of science that affects us all. So I'm glad that we have that diversity represented on that signature list so far.

I will make copies available to those of you who think that you might want to sign the letter. If you think this letter is not for you -- because I only brought so many copies, please let those who might have an interest in signing, actually read the ones that I brought. If you do feel like signing the letter after you've read it, please tell me. I have the master copy with the master sign-on page. I want you to sign that

copy rather than the photocopies for the obvious reason that it's a master copy that will go to Dr. Jackson.
Thanks again for your patience in listening to me today. I appreciate it very much.

MS. STEMBRIDGE: Norm, before you speak again, I want to recognize Ricardo. Although he is a member of this subcommittee, he frequently brings us public comment from the Hispanic Community who aren't able to be here.

MR. GARCIA: Thank you, Lynne. On behalf of the family and friends of Jose Vargas, V-a-r-g-a-s, from Wapato, I bring the following announcement. We buried -- family and friends buried Jose Vargas during the first week of February. Jose was one the first friends I made when I arrived in the state of Washington, Yakima Valley back in 1962.

Jose, as a young boy in 1942, his family, farm workers, arrived in the area in 1942. As a young boy and teenager, ate cheese made from goats' milk, ate vegetables, picked fruits, cut asparagus, played in the dirt of the Yakima Valley. Jose was 62 when we buried him. And he died of cancer of the pancreas.

MS. STEMBRIDGE: Thank you, Ricardo. Norm, we have a few minutes left.

I also want to remind people that we have added a half an hour for public comments this afternoon at the conclusion of our plenary session on the thyroid disease study and also for people who might not be aware of, for members of the public, our work group sessions, which will be commencing at the end of today, are open to the members of public. And one that might be of interest to you, given what I hear is some very keen interest in the thyroid disease study, would be the studies work group because I suspect there may be some continuing discussion there as well.

So I want to invite all of you who are here to keep in mind that you're welcome and invited to any of the work group sessions in our agenda.

MR. BUSKI: If you recall, I had you on Amchitca or close to it. What we had was very, very simple scientific or technical issues, whether there is radiological leakage onto the island, sites that had been identified by Greenpeace, very, very simple compared to an issue like epidemiology.

My conclusion up front was that we couldn't do that scientifically, that science won't work on that platform, but we could get a technologically correct answer, and we set up an adversary situation where we had proponents for both leakage and not, and we would fight it out. It worked extremely well.

We fought it for a year. At the end of it, basically Green won and DOE lost. And DOE did not go public. They decided they weren't going to meet their commitment. What I did was said, "Okay, we have to inform the public," so we took DOE's data that they spent \$2 million on and we published their data.

Of course, everybody in the committee was appalled that anybody would do something like that because it breaks trust so much, but the notion was that we had a commitment to the public and the public needed to know. We did two things. One was published data itself as Nuclear Flashback Part 2. Secondly, we chronologized the coverup that DOE had done in preventing this. So we called that the threat of the U.S. Nuclear Complex.

DOE is still working on that study, and sometime in the next 10 or 20 years, you may actually see it. I'm representative on QA/QC. That is quality assurance, quality control. For any study that is going to do anything you have a section in there on QA/QC to make sure that the study works, that it has things like that giggle test I mentioned to make sure it's all realistic.

When you have a presentations this afternoon on the HTDS, you want to be sure that you check out the quality control, quality assurance section. For those of you who have looked, you will probably notice there isn't one. That has to do with it not passing the giggle test. The thing is not realistic. You say, "Okay. Can we be a little more specific?" See, I'm trying to tell you the whole thing does not work,

so I'm not going to bother you with details. But if you take a look at your executive summary and you start out by what is it we are trying to do with it, the first thing, the primary purpose of the study was to determine whether thyroid morbidity is increased among persons exposed to releases of radioactive iodine from the Hanford nuclear site between 1944 and 1957. That was the preliminary purpose.

The study was also designed to further determine in what way any increase in thyroid morbidity was related to the dose of radiation received. So dose studies is a secondary objective. Do you notice that?

Okay. Primary objective is to determine if there is an effect. Now, if you look at the very tail end of this, you will see this is actually a dose study. HTDS is Hanford Thyroid Dose Study. And what they did was, they did this dose-related effect, and then, when you sing out at the very final end, what they did was set the dose; that secondary objective determines the primary objective. Well, this doesn't work. This is where, if you do quality assurance, quality control, then you say, "Oops, garbage."

The study did not do what it set out to do. Frankly, whether you want to argue it's bad science to have missed your primary objective, or it's not science, we can quibble. But this just doesn't work.

MS. STEMBRIDGE: Folks, we're now at 12:30. I'm going to adjourn us for lunch. We need to be reconvened here at 1:45 when we are going to actually tackle the beast that we have been chewing around all morning long, which is the thyroid disease study.

Have a good lunch.

(Recess)

MS. STEMBRIDGE: We have an hour and fifteen minutes set aside for the Hanford Thyroid Disease Study, so this will be broken down into a 20- to 30-minute presentation of draft study results by Mike Donnelly. And then someone from the RKC office in Atlanta, who will be piped in over the speakers. Then we have been thirty minutes for question and answer and discussions.

I would like to save the last ten, fifteen minutes so we might hear from Judy Jurji and Louise Kaplan about their attendance as HHES representatives at the public day of the National Academy of Science meeting as they are commencing their review of the HTDS study.

So with that, I will turn the floor over to Mike Donnelly from CDC.

MR. DONNELLY: Thank you. First of all, I want thank you all for the comments that we've heard this morning. It hasn't been easy sitting back there, but they have been invaluable comments nonetheless. We will certainly consider everything that everyone has said, in terms of their concerns about the Thyroid Disease Study.

Paul Garbe was the lead technical person for CDC on the study. Paul was unable to come out here because of some personal commitment, but we have arranged to come in via speakerphone.

It sounds like Glyn will also be joining us. I'm going to serve as an overhead flipper up here as Paul does his presentation. So I guess we will get started here.

Paul, if you want to begin, you can.

DR. GARBE: Mike, if you just show the title slide briefly and then move on to No. 2, that would be good.

What I want to emphasize today is that what we are discussing is the draft report, at least for public comment and scientific review, and note for you that the Hanford Thyroid Disease Study was prescribed to evaluate an association between thyroid disease and estimated radiation dose to the thyroid from Hanford emissions.

It's important to keep this purpose in mind because this directs a lot of the decisions that were made over the course of the study, basic design. There are other questions that might have also been asked, but this study was designed specifically to achieve this primary purpose.

The specific elements are noted on Slide 3. I will run through these quickly. The studies set out to evaluate thyroid morbidity upon persons exposed to releases from Hanford and to evaluate possible causal associations with Hanford emissions, determine the commutative incidence for 13 categories of thyroid and parathyroid disease and it sets differences in cumulative instances using a dose-response model.

MR. DONNELLY: Paul, can I interrupt you for a second? Are you on a speakerphone or headset.

DR. GARBE: I'm on a standard telephone.

MR. DONNELLY: We're getting some interference. We can hear and understand you, but there is some interference and we're trying to figure out if we can correct that.

DR. GARBE: I'm getting the same. I'm getting feedback.

MR. DONNELLY: Paul, I'm sorry, hang on one second. I'm talking to the sound technician. We're trying to figure out if there is a way to clear you up. Maybe if you can speak up, Paul.

DR. GARBE: Is this any better?

MR. DONNELLY: Sounds like it is.

DR. GARBE: Go to Slide 4, please. This provides an overview of the design of the study. Briefly, this is a cohort study. This means that the investigators set out to identify a group of individuals or a cohort who would have been exposed to Hanford releases, trace and locate them wherever they are today, and determine their thyroid disease status and collect information needed to estimate an individual thyroid radiation dose.

Typically, cohort studies begin with knowledge of an individual's exposure or dose. We form the cohort to represent, either in simplest terms, persons exposed or unexposed or preferably, when we want to examine carefully cause and effect relationships, we would identify persons exposed at different levels, from zero or very closest to zero to the highest possible exposures.

In designing the Hanford study, we were limited in the beginning in not having any information about radiation dose, but we have used information from the HEDR project. Some of that information was available in the design stages of the Hanford study to help us identify specific groups of individuals with presumed exposures that might give us a broad enough range that we can define a cohort.

The HEDR results pointed us to focus this effort on a study that would enroll individuals who would have been infants or children at the time of highest Hanford releases because this is likely the highest dose group.

Slide 5. Briefly, the measurement of disease in this study was to determine cumulative diseases, that is, the percentage of individuals with disease during the time period specified. This is because there was a long time period since the initial iodine-131 exposures. And also because the screening provided by the study medical examination is likely to be much more sensitive in detecting thyroid disease than would have been a medical exam, study participants.

MR. DONNELLY: Paul, I'm sorry, let me interrupt you again. Glyn Caldwell, have you joined us?

DR. CALDWELL: Yes, I have, just got on.

MR. DONNELLY: Can you hear everything okay?

DR. CALDWELL: Yes.

MR. DONNELLY: You're nice and clear.

DR. GARBE: We are just starting on Slide 6 in the set that you have.

DR. CALDWELL: Okay. Good enough. Thank you.

DR. GARBE: Moving to criteria for subject selection, the identification of individuals was done using birth certificates from Washington State to create a roster of persons born to mothers whose usual residence is one of seven counties in eastern Washington. These are in two groups, the likely highest dose individuals were born to mothers, which was in Benton, Franklin, Adams, and Walla Walla counties. And the likely lowest doses, according to the scheme, were individuals who were born to mothers who lived in Stevens Ferry and Okanogan Counties.

Slide 7. I covered this already. Again, the HEDR data highest doses were probably the persons exposed as infants or young children in early years and from studies of other radiation exposures, we do have the knowledge that those who are exposed as young children appear to be at the highest risk for thyroid disease from the exposures. The studies, principally, of x-ray exposure, or external irradiation exposures.

Slide 8, please. In this study a number of approaches were used to determine thyroid disease status for each study participant. Once a person agreed to participate in the study, he or she was scheduled for a clinic and data collection involving a number of steps. First, the personal interview was administered. This focused on prior medical history and in particular thyroid disease.

Second, thyroid ultrasound exam was performed. Third, each person was examined independently by two physicians who were specialists in thyroid disease. Each of them did not know the results of the other's exams until both exams were completed. They would confirm, and if there was a disagreement in their findings, they would reexamine the patient together to reach a consensus diagnosis. Then the two of them together reviewed the ultrasound examination results. If there was disagreement between their physical exam and the finding on the ultrasound exam, the physicians would examine the patient to reach a final consensus and diagnosis.

Fourth, blood samples were taken and submitted to thyroid function tests, specifically thyroid hormones and antimicrosomal antibodies and also individuals had assessments done for serum calcium.

Finally, individuals who refer to the history of thyroid disease or tests for thyroid disease were asked for permission to obtain their medical records to review those to verify previous diagnosis.

Slide 9, please. I won't read through this list. This is, essentially, the list of thyroid outcomes that were examined. In addition, you'll note two items at the end of the list, ultrasound detected abnormalities, even though the heading on this slide is disease outcomes, it is currently the best information that we have from physicians. It is that the ultrasound detected abnormalities that are not identified on physical examination do not appear to represent disease.

Then the last item, hyperparathyroidism, of course, is a disease related to the parathyroid gland,

which is located very close to the thyroid gland to the neck.

Slide 10, please. This outlines the methods for determining estimated radiation dose. The interview efforts focused on a computer-assisted telephone interview and information was collected on residence and food consumption and medical history.

The test efforts were made to do this interview with a mother or other close relative of the study participants, someone who would have been an adult when the participant was a child and who would have been knowledgeable about residence and diet for the study participant.

Then, using that information and the computer programs from the HEDR project, individual dose estimates were calculated for each of the individuals. These dose estimates were done using, actually, 100 repetitions of each of the calculations where various data points were carried to take into account certain aspect via the information available.

The dose estimates can also be broken down by different pathways, as well as different radionuclides, but the vast majority of the dose that is calculated for an individual is from iodine-131.

Slide 11, please. A brief summary of the analysis that was done here. The primary analysis focused on living participants who received medical exams. And the question that was asked in dose response in the health of humans, does the cumulative instance of thyroid disease increase as radiation dose increased? The dose response approach is used because from other studies of radiation exposure, we believe that no threshold existed, along with there was no risk.

From the epidemiologic assessment of causation in epidemiologic study effects where you can see a dose response, that is, the level of disease increases with the exposure provides a stronger evidence of the existence association and it would be a comparison that evaluates exposed.

Slide 12, please. Because of continuing questions about the reliability of the HEDR methodology, this study did include several alternate exposure estimate methods which were independent of the HEDR dose calculation system. This approach, essentially, took an exposed/unexposed type of analysis approach.

And we had two different exposure position definitions. One was the mother's residence at the time of birth, and the second was the subject residence in 1945. And for the subject residence approach, the high exposure definition is an all-exposure definition of what is on the slide here.

Slide 13. The secondary portion of the analysis was to examine mortality. In the process of tracking and locating individuals, the investigators did find that 525 individuals were located, but were determined to be deceased. Then an additional 16 individuals who were located alive died before they could complete the study clinic. There was a total of 541 individuals who were deceased and could not be considered as a living, evaluable subject.

For these individuals, investigators were able to obtain death certificates for 502 of them. And a mortality analysis is the information on underlying cause of death from these death certificates. The question asked in this analysis is, are death rates in the study population higher than would be predicted based on Washington State rate.

MR. DONNELLY: Paul, Lynne Stembridge has asked -- she wanted to make sure that we had enough time for questions.

DR. GARBE: I should be able to get through this in 10 more minutes or less.

MR. DONNELLY: Thanks. The court reporter is also having some difficulty hearing, Paul. That was good whatever you just did.

DR. GARBE: Slide 14, please. Native American components, just briefly, there was an element of the study to examine the feasibility of a similar type of design to be used for the Native American

populations. There are nine tribes in the region, as you're all aware. The primary objective of this component was to assess the feasibility. And this was based on data that were obtained using separate data collection methods that were done through separately funded projects that CDC had for each of the Native American tribes.

Calculations from this indicate in a study did the same design as the Hanford Thyroid Disease Study, that is, a cohort design would not be capable of detecting radiation effects that existed.

Slide 15. This summarizes the dose responses analysis results. Study participants with higher estimated doses were not more likely to have thyroid abnormalities detected by ultrasound, however, the proportion of the participants who had what the physicians classified as small focal, that is, individual thyroid detected abnormalities -- or ultrasound detected abnormalities was increased among those with higher doses. This was not a statistically significant increase, but it is an increase nonetheless.

Again, physicians, as best we understand, do not classify these focal ultrasound detected abnormalities as disease.

Slide 16, continuing with dose response analysis results. Study participants with higher estimated doses were not more likely to have blood tests indicating abnormal thyroid function than those with low estimated dose. The levels of calcium were slightly lower among participants with higher doses, but even the low levels detected were within the normal range for serum calcium in an individual.

Slide 17, please. This slide summarizes the mortality results. Analysis of cause of death revealed no indication that thyroid disease or thyroid cancer was the underlying cause of death for any of these individuals. Mortality analyses using death certificate data are different because only the underlying causes are listed and other diseases that an individual may have that could be a contributing cause of their illness, we have no information.

Overall, death rates in the study cohort were about 20 percent higher than predicted, based on death rates in the state of Washington for the same time period, particularly for causes related to congenital abnormalities and conditions occurring late in pregnancy or within the first seven days after birth.

Most of the excess in mortality appears to occur in individuals who died before the Hanford facility began operating.

Slide 18. What do these results mean? There is really two questions to consider here. First, what do the study results tell us? What they tell us is that in study calculations, persons with higher estimated radiation doses did not experience more thyroid disease than persons with very low estimated radiation doses.

These results do not provide evidence that thyroid disease in the study participants are linked to iodine-131 radiation exposures of these dose levels.

The second question is, what is the broader context of this information? What are the implications for these results? It is important to keep in mind that these results do not mean there is no association, rather, if one exists, this study did not detect it. The results do not prove that there is no link between iodine-131 exposure and disease.

Slide 19. Along that line, the results do not rule out that some persons in the overall population exposed to Hanford have developed thyroid disease as a result of their Hanford exposure. Any epidemiologic study, it is not possible to determine whether an individual case of thyroid disease is caused by Hanford radiation or not.

Slide 20. As I mentioned at the beginning, we have a draft document that we have made available to the public for both public and scientific review. There are a number of issues already identified, some of these came to our attention very shortly before the public meeting in the end of January. But there are three that I wanted to at least highlight at this point. I know there are other issues that individuals have. Not having listened to the discussion today, I won't be able to comment on those.

But first, accuracy of the HEDR information is certainly an issue that we have heard the public ask questions about, and that is one of key questions that the National Academy of Sciences Committee will be considering.

Uncertainty in dose estimates is an important question. And, lastly, the findings from the mortality analysis have questions that we think warrant a further assessment. And there are analyses of mortality data that are underway that ATSDR has been supporting. We should be seeing results of that sometime later this spring.

Slide 21, please. Follow-up activities for the very near future. We are in the initial planning stages for two additional public meetings to present the results of the study and to offer the public an opportunity to comment, ask questions, and give us their suggestions for future work. We are looking forward to input from the Hanford Health Effects Subcommittee.

We are currently trying to schedule a meeting of the Hanford Thyroid Disease Study Advisory Committee to discuss with them follow-up activities. We certainly are inviting the public to comment in writing by sending their comments to us at CDC. We advise you-all to comment today at the meeting and then the additional forums. Right now our plans would be to have the public meetings in Seattle and Spokane.

Lastly, the National Academy of Sciences Committee review, when that is returned to us, we expect they will take all of the comments that we received, as well as suggestions for additional analyses and suggestions on language and interpretation of the results, and the implications will be taken into account as the final report for the study is prepared.

So that is a promise, I guess, to finish in 10 more minutes. I think I did it in eight.

MR. DONNELLY: I'm glad you didn't say Slide 22, because I couldn't find it.

DR. GARBE: With that I would be happy to take questions.

MS. STEMBRIDGE: Paul, this is Lynne Stembridge. I have a request with respect to the public comments that you will be receiving up until July 1st. Could you describe what the actual process is going to be for responding to those comments that you receive from various and sundry places including members of the public?

DR. GARBE: Right now we will be planning to post comments on the Web, on our Internet sites. At this point we would have to do that in a way that would respect privacy of the individual, making the comments so we are posting the information but not the name of the person who was commenting.

Individuals who raise questions that we feel need an immediate reply, we will make every effort to do that. We do plan to send an acknowledgment to everyone that their comment has been received, and we will be considering that in the preparation of the final report. Then, at some point, we would be expecting to compile all of the comments, then prepare some written materials that would respond probably in two ways. I would see there would be some general written material that would be an effort to respond to comments that have very similar themes and then where people are raising specific scientific questions or other policy or other public health type questions, where any individually oriented comments would be appropriate in that compiled document.

MS. STEMBRIDGE: Thank you. Henry.

DR. ANDERSON: Hi, this is Henry Anderson. I will start by saying I had difficulty downloading the full report off of the Internet, at least where I was, and with my equipment, so I have not read the whole report. So it may be in there, but if you could maybe comment.

One of issues I had is, did you see the expected patterns of disease? We know that there is sex difference in thyroid disease. We know there is different age patterns. And I was just wondering if in the population you were able to detect or see these differences and how you control for them in your dose response relationship issues.

DR. GARBE: I'll answer the second question first. Age and gender were both incorporated into the dose response model. As far as patterns, we did see -- one pattern that we expected, that woman have a higher prevalence of thyroid disease than men, and that was evidenced in this data, in the study participants.

In addition to that, the proportion of individuals with some abnormality noted on the ultrasound examination was about at the level that we had expected to see. There are not a lot of data for large groups of individuals where ultrasound has been applied at the screening type of assessment. We weren't sure what we would see from the advice that we got from thyroid physicians. We were expecting to see a level about what we did see.

DR. ANDERSON: One of the interesting things in the study design is, while it's a cohort, the majority of your data is cross-sectional. So in doing some of the age issues, how did you deal with date of onset or age of diagnosis or things like that? Did you look at the individuals who had already been clinically diagnosed and separate them out from the asymptomatic or those who had been undiagnosed at the time?

DR. GARBE: Age and time of examination and age for individuals where diagnosis was made prior to the examination was incorporated into the model.

DR. ANDERSON: How did you have age of diagnosis? I mean, they are all within a five-year age.

DR. GARBE: There was actually a number of individuals that had disease that were identified, through medical records. So for those individuals you could have their age of diagnosis and then the other individuals, it was essentially what was incorporated into the model was the age at the time of examination, which, in this case, it was age of diagnosis.

DR. ANDERSON: I think that could pose you some difficulties in attributing that disease onset was at the time of your examination versus when it might have -- if you analyzed it separately without treating those as zero or not diagnosed, did you see any difference in the patterns?

You ignore your examination results and take what was clinically known about the individuals or if you diagnosed it, but they were previously symptomatic, they have been hyperthyroid or hypothyroid for some time. Did you use the symptoms at all?

DR. GARBE: I don't know the answer to the question without going back to the full text of the report to look through it, but I can certainly do that and get back to you.

DR. ANDERSON: Okay. Thanks.

MS. STEMBRIDGE: I also want to say to Glyn, I can't see your card from where I'm sitting, so, Glyn, if you have a question to ask, you need to clear your throat or somehow cue me that you would like to insert yourself into the process.

DR. CALDWELL: I know how to bust in. Actually, my card has been sitting up for fifteen minutes.

MS. STEMBRIDGE: I will put you on the list right behind the people who I already have down here.
Louise.

DR. KAPLAN: Paul, this is Louise Kaplan. I think at the beginning of your comments I heard you refer to this as preliminary results. Is that what you said?

DR. GARBE: It's a draft final report.

DR. KAPLAN: Draft final report. I'm asking that because the presentation of this to the public has not necessarily been that clear. And even the CDC summary says Summary Final Report of the Hanford Thyroid Disease Study. So I hope that, in fact, this is draft and that the comments that people give you and the National Academy of Science review develops will contribute to what is the final report.

I raise that as an issue because there has been a tremendous amount of concern about how the publication of this was handled, how this was leaked to the press, which is what the HHES knew would happen, given that the congressional briefing happened prior to our briefing and the press conference. I do think that CDC should respond to the concerns that we raised in December that came to pass. And you don't necessarily need to do that now, but I think in some respect we anticipated this would happen. And we were not really surprised when it did.

One of the technical questions that I have for you is that, in the course of attending the National Academy of Science review meeting, we heard the presentation. And if you talk to any number of people, the way the results were summarized, there are different categories of outcomes for thyroid disease. And if you add them all up, you come up with approximately 34 percent of the study participants having been diagnosed with some type of thyroid disease.

In the course of my commenting on this, I think it was Dr. Schneider commented that, in fact, some of the people in this study had more than one diagnosis. And when I went home from that, I downloaded the result section. And nowhere in the result section could I find a summary table of how many people were actually diagnosed as having thyroid disease, how many had more than one disease outcome. I'm wondering if that table exists somewhere. Did I miss that or has that not been done?

DR. GARBE: I don't know the answer to that. My impression is that is probably a table that has not been compiled. If that is the case, then I will see that we put that together.

DR. KAPLAN: I appreciate that. I submitted that as one of my comments to the National Academy of Science panel for their consideration as well. I also think that Dr. Schneider raised another issue, which is that he doesn't perceive the detection of thyroid antibodies and the diagnosis of autoimmune thyroiditis as necessarily equivalent to a disease. So I will be curious to see if there are other reviewers who feel that some of those people ought to be carved out or not. But, clearly, you did indicate that autoimmune thyroid disease is a disease outcome; is that correct?

DR. GARBE: That is listed as a disease outcome. That is correct. There are some fairly detailed case definitions that are in the appendix to the analysis plan. I don't recall if that detailed list is also in the draft final report. I will check when I get back to my office. If it's not in the report, I would be happy to send you a copy that you can look at more closely.

I appreciate the question that you are raising. I recall the comments that Dr. Schneider was making. I think that is certainly a point that the academy committee will pay very careful attention to in putting together their comments of the assessment.

MS. KEIR: Could I ask how confident the HTDS study group was that, in point of fact, they would only concern themselves with the one isotope? We keep hearing figures that 98 percent of the doses to downwinders would be from iodine-131, but, yet, there are other isotopes present, such as iodine-129. That is my first technical question. And maybe I should just get your answer to that before I ask another.

DR. GARBE: I believe that many are very confident. I think the investigators were confident that iodine-131 was the radionuclide to consider in this evaluation. From what I know of the information from the HEDR project, about 98 percent of the dose to an individual -- radiation dose to the thyroid gland would be from iodine-131. Now, there are others in the room who know the HEDR data much better than I do. I think Dr. Caldwell, who was part of the Technical Steering Panel, could probably answer that technical question better than I could.

I think, as this study was designed, investigators were fairly confident that iodine-131 was a radionuclide too.

MS. KEIR: I know our time is limited, so maybe I should just go on and ask you the technical questions.

DR. CALDWELL: Can I interrupt just one second. I think I can answer at least a part of that quickly. The iodine-129 amount was much smaller and because it has a larger half-life, it does not transfer nearly as much energy. So whatever proportion it had would be vastly outweighed by the iodine-131 component, which gives up all its energy in a half life of eight days, where the iodine-129 half-life is in years. And for the short-lived radionuclides, most of those would have been gone almost before the person had any opportunity, at least in a backyard cow, to drink the milk. So that is why iodine-131 is the major component. The other ones are shorter for the most part, with a shorter half-life. The others are longer, but they don't give up much energy, so they don't do much damage.

MS. KEIR: I was actually trying to assess how much independent thought the Hanford Thyroid Disease Study group gave to the HEDR data.
I was really not seeking --

DR. CALDWELL: I can't answer that.

MS. KEIR: I wasn't seeking more input from the TSP HEDR people because we have had a lot of that kind of input, but thanks anyway, Glyn.

My other question is, if you have what I presume is a significant increment between what you call low versus higher doses between your cohort comparison, do I have correctly that was the basis of your conclusion, the lower dose versus the higher dose, but both groups were supposedly dosed by iodine-131; is that correct?

DR. GARBE: There is a range of doses. There are a number of individuals who I think have an estimated radiation dose of zero. Yes, there is a continuum, yes. There are people that have a low radiation dose. Yes, they would have been exposed to Hanford emissions.

MS. KEIR: I didn't mean to sound so astounded. It's a little hard for downwinders to understand people that were actually in the area that would be considered zero dose, but we will let that pass for now.

DR. GARBE: It's an estimated dose, but the computer model estimates that they had no dose. Whether or not the computer model estimate is, in fact, a representative of that person's true experience is a question that I think is one that is best debated by the people who have been working hard on analyzing and reanalyzing what the HEDR project means. But that is certainly a question epidemiologists always ask: "Are individuals classified correctly with regard to exposure?"

MS. KEIR: Obviously, I, and most downwinders, don't think that is possible. I'm glad that you clarified that you were taking a theoretical stance related to a model for that. So, thank you for that.

But in light of these incremental differences and in light of the fact that there are many different sources of radiation -- although, I realize they may not, of course, wouldn't all be iodine-131 when we have the Nevada Test Site radiation. Do you feel confident that simply having a comparative increment gives you a significant dose response conclusion by which you can reach the conclusion that in spite of having such high numbers of people with thyroid disease, yet you can conclude out of that, with all the confounding factors and all the uncertainties of the theoretical HEDR model that you can find no significant result in dose response to thyroid disease in your study?

DR. GARBE: I feel comfortable that we can conclude that, based on the information in the study from the study participants. The point of looking at the dose response is that from other studies of radiation exposures, we know that -- particularly with external exposures, x-ray exposures and exposures following the atomic bomb in Japan, as dose increases, the disease rates increase. That follows, as best we know, now a straight line.

We presume that there is no lower limit along which no one -- even though they may have been exposed -- has absolutely no risk. But the evidence, I think, is when you examine a dose response type of effect, and you see one, that is pretty good evidence that you have that relative effect. When you look for a dose response and do not see one, what you have is a situation where the information you're looking at does not demonstrate the dose response. It doesn't prove that there is not an affected population.

MS. KEIR: So if I understand what you're saying, it is a little different than what was screamed in the headlines, "No Thyroid Disease from Hanford" is, basically, what a lot of headlines on the study read. Yet when I see your presentation here, it seems to be much more cautious in its conclusions. Am I misinterpreting you or do I see that you're being a little more careful about your conclusions?

DR. GARBE: I'm responsible for the material that you're looking at here today. So I'm writing this as an epidemiologist would write it. Headlines that show up in the newspaper, I wish I could write them for the newspaper, but I haven't had that chance yet. The information that we have worked on, as far as putting summary materials in print, we have tried to maintain where we have a title that might look like a headline, that the information conveyed in that is "no evidence seen." I think that is an accurate statement of the information that we have from the draft report. That is in the analysis of the data. The data do not show us that there is evidence of effect. So I think that is accurate.

MS. KEIR: Thank you very much.

MS. STEMBRIDGE: Marlene.

MS. NESARY: Hi. I want to come at this from a slightly different angle. I'm an old editor, who has done a lot of work with statistical and technical material. And I'm looking at this handout here, and I'm looking at Slide 3, study purpose. No. 1, keyword, morbidity. No. 2, keyword, incidence, cumulative incidence. No. 3, keyword, dose response. Okay. That is the order we're given in the introduction. Now, we turn to page 4, where it talks about study design. A slide on study design says, dose response analysis, the No. 3 item on your introductory purpose list. And then through that funneling process, we get to the results, conclusion, which is only about the dose response. What has fallen away is discussion of morbidity and discussion of cumulative incidence of thyroid disease among the cohort. I have to say that it looks like a deep logic flaw to me in a single mission.

DR. GARBE: I believe the purpose on Slide 3, the first elements are building blocks to allow us to then conduct assessment that is listed in the third, which is the dose response assessment.

MS. NESARY: I'm looking at the order in which they appear. It's an establishment of a kind of a precedence -- and then they are dropped away and they are not discussed again.

DR. GARBE: The question of thyroid morbidity, we have in the draft report summarized the thyroid disease that an individual has.

MS. NESARY: Is that the table that Louise couldn't find?

DR. GARBE: No. There are summaries for each of the individual disease. And I think they are fairly detailed summaries of the occurrence of thyroid morbidity.

MS. NESARY: Isn't there a one-page, at-a-glance figure that summarize that?

DR. GARBE: The overall thyroid morbidity, probably is not in the draft final report. And I don't believe that we prepared something like that.

The comparison of thyroid morbidity in the population to another population is a task that would be extremely difficult because there really is not another population that would be truly unexposed population that has had a similar type of intensive thyroid examination.

We can look at cancer -- data for thyroid cancer in this study and compare that to cancer registry data. There are some limitations on how that is done because, again, the investigation here is a much more intensive investigation from studies done by other epidemiologists. Generally, people expect, when you do this intensive of an assessment of the population for thyroid cancer that you likely find up to three times the amount of thyroid cancer that might be identified through cancer surveillance systems such as the SEER Program, the National Cancer --

MR. DONNELLY: Paul, can you repeat that a little bit louder because folks couldn't hear, and I think that was the critical answer to the question, at least, from your point of view.

DR. GARBE: In comparing thyroid cancer morbidity, that is really the only one of the outcomes where there is reliable data that one could look at at for other populations. The baseline that we look is cancer incidence data collected through the SEER Registry Program administered by the National Cancer Institute.

But studies that have been done previously have reported to us that when you do an intensive population like has been done in the Hanford study, that you should expect to identify up to three times

the number of cases of cancer that one would identify if a registry-type program or a surveillance system was used.

MS. NESARY: May I suggest that in the final report you work a little harder to have some congruence between the study purpose as it is stated and presented and the study design and the study results so that the logic runs clean through them.

DR. GARBE: I will take your advice. If you have specific suggestions that you think might be things for us to key in, I would certainly be grateful if you can provide those either to my colleagues there or you could mail that to us. I think that would be very helpful.

MS. STEMBRIDGE: All right. We have five more people who would like to ask questions and about 10 minutes left, so I want to move forward.

Glyn.

DR. CALDWELL: A couple of quickies. Some of mine were asked before, so I won't go back over those. Were any cases excluded, and if so, why?

DR. GARBE: Excluded? There were individuals who were probably excluded at various stages in analysis for different reasons. But I couldn't generalize that. I would have to go through that on a case-by-case basis. Some of these would be where re-review of the medical information available suggested that an individual didn't meet a particular criteria for being classified. There are, for each of the disease categories, a primary case definition and several alternative case definitions.

So, I think the real answer to the question, I would have to --

DR. CALDWELL: That is something that I didn't see. One of the things that you always have to look at are, what were the exclusions and why? That was one of the pieces that I didn't find.

DR. GARBE: There was a study participant, who, I believe, had thyroid cancer diagnosed by their own physician after their HTDS examine. And that individual was not included in the analysis of the dose response because the exams given as part of the study did not identify thyroid cancer for this individual, a subsequent medical examination where that individual disease was identified.

DR. CALDWELL: Do you have a feel for how many cases might have occurred that way and whether or not it would change the result if they were included later on in a reanalysis?

DR. GARBE: I don't have an answer for you on that. But that will be one that we will keep in mind.

DR. CALDWELL: The other thing in looking at these, there are two things. I realize we don't have a dose response. I realize that I'm supposed to defend the HEDR, but I won't. Did you look at simply a dichotomous decision of whether there were more of any kind of illness, upwind versus downwind, using the wind rose as the divider? Which the most prevailing wind is west to east, for the most part, I think. If you just do that simple dichotomy, did you find more cases to the east than to the west? I know you didn't do that, but it's something that needs to be looked at.

The other is to look at the distance as a surrogate. Another alternative for dose is to look at how far away people are. And when we don't have dose, we don't do it. This would just be another

collaborative kind of analysis that would be fairly simple, since I think you know where everybody is at.

DR. GARBE: Right. The first one that you described was not done. The second one was done in a little bit different way, but I think the suggestion that you've just made would be one that we should examine as well.

DR. CALDWELL: It is the only way of saying, if dose, as we know it, is grossly incorrect, then you might find something. If you find, nothing it doesn't help you. And I'm just saying there might be another way of looking at it.

Then my last dose -- or my last question here, since all the others were covered, is, when you had the elevation in calcium for the parathyroid gland, were any of these people relooked at to make sure they didn't have any of the signs and symptoms of parathyroid disease, thinking of the hypertension, bone loss, some of other symptoms that you might not pick up without knowing their calcium was abnormal.

DR. GARBE: To my knowledge, individuals were not reexamined after that calcium.

DR. CALDWELL: Well, it's not so much reexamination as looking back at the symptoms that they might have reported.

MR. GARBE: That was done, I believe, that they did review the medical information that had been collected in the study to determine if, on their examination there were signs that would be consistent with parathyroid disease.

DR. CALDWELL: One last thing and then I'll shut up. With the dose, you used the doses here. Did you, perchance, do a little more simplified thing of high-low, little, with some individual cutoff just to see if there was a gross change?

DR. GARBE: Using the estimated doses?

DR. CALDWELL: Yes, or does it matter.

DR. GARBE: The investigators did not take the estimated dose information and construct any dose calculation.

DR. CALDWELL: All right. That is all I can think of right at the moment. The other two were answered.

DR. GARBE: Let me back up on that. As far as doing a statistical analysis using categories, that was not done. But in the summary tables and figures that were prepared in the results booklet, those were displayed by dose categories, where what is displayed is the proportion of individuals with disease in each of the dose categories.

DR. CALDWELL: I was looking at page 16, this is benign thyroid nodules. They list the thyroid radiation dose, and you have four cases in men. So I was just curious whether or not they looked at those by lumping certain groups. I don't know if it would change anything, but it would be another way of just doing a more simple analysis that would give you sort of an either or effect. That is all I was looking at.

This is probably better, but I was just looking at other ways that might give you a more

meaningful or a simplified view of things. That's all. It's probably not -- usually you want the better dose information. Okay. That is all I have for now.

MS. STEMBRIDGE: Rachel.

MS. MOSES: Hi, my name is Rachel Moses. I'm the chairperson for the Intertribal Council on Hanford Health Effects.

I would like to agree with Glyn on the issue of the wind rose or the wind patterns. I believe that you really need to look at that area closer. I'm from one of the counties in your study that you determined that I'm most likely to receive a low dose. I'm actually almost from two counties that you've identified as likely to receive a low dose. One being Okanogan County, born and raised there. And another, Ferry County, born and raised probably a half of mile from there. So, in essence, I could probably say I'm from both counties.

But if you were to look at the wind patterns, and the wind rose in those particular years that you've studied, that information is available. You can get it from Earth Info., a lot of different places have that information on CD-rom.

Instead of using a model that guesstimates what the air was doing at that particular time or how fast it may have been blowing or what counties may have been affected, I think that would give you a more accurate picture in estimating than trying to guess what the picture would be.

That was one of things that I wanted to mention. Another was, I know in your slide where you talk about the Native American component, and you have four bullets, basically, nine Native American tribes were involved in your HEDR project in this region. And you point out that the primary objective of those projects was to assess the feasibility of conducting a thyroid study.

You also point out that a separate data selection process was used to estimate the dose in population sizes. I just have a question on that, as well as the last bullet that you have.

My question on that third bullet is, how was the data collection process separate for the nine tribes and was the data collection process different among the tribes? My last question deals with the fourth bullet that you have which, basically, says, calculations indicate a study of the same design would not be capable of detecting a radiation effect if it exists. And I'm saying that to me, the calculation -- your study would indicate that -- I think you were looking at detecting an association between the thyroid disease and the estimated radiation dose to thyroid from Hanford emissions as opposed to detecting a radiation effect if it exists.

I don't believe that your study was meant to look at that particular part of your bullet. And I'd kind of like to take objection to that part because it takes away from the focus of the purpose and your design and everything else. But I have some questions on that part, but I can't take any more time. Thank you.

DR. GARBE: Let me answer where I can, and I would be happy to talk with you more at some point in the near future if you wanted to. It would certainly be helpful for us if we could talk more with you about the concerns that you have. The data collection efforts here that are referred to were ones that were funded by CDC through cooperative agreements with each of the individual tribes.

I think the intent was that data collection efforts would be very similar. I don't believe that there has been an effort to compare data across all of the tribes to see that it was done in a similar fashion. But I'll check with some of our folks who have been involved in that.

MR. DONNELLY: Paul, may I interject.

DR. GARBE: Mike may know the answer. Go ahead, Mike.

MR. DONNELLY: Well, just to clarify the data collection that took place through the contracts that CDC had with each of the individual tribes, the protocol and the questionnaire that were used to collect that data was a common protocol and a common questionnaire that was developed by the Native American working group. All of the tribes agreed, in terms of the methodologies, and used the same methodologies. However, the data itself is tribal specific about their own dietary and lifestyle habits. So I don't know if that adds or not but that is a little more how the data was collected.

DR. GARBE: Rachel, you raised a point on the last bullet. I think that you are probably correct, that ought to be clarified. For this particular assessment what was considered was Hanford atmospheric emissions. I don't believe this assessment included other potential pathways. And Mike may know more information about that than I do, but I could get more information on how this was done. Again, if you wanted to talk further with us about that, we would be happy to do that.

MS. STEMBRIDGE: Trisha.

MS. PRITIKIN: This is Trisha Pritikin. I have a question and a request. I'd like to find out if we could get a copy of the full report to any of the HHES members who want it, because a lot of us are having trouble downloading it in its entirety from the Net. I think it would be helpful if all of us have the full report so we have a fuller understanding. I want to know if some of the people who want it can get the entire text. I think we should be able to get it.

DR. GARBE: We can make that available for people who would like to have it.

MS. PRITIKIN: Maybe we could have a list of folks to sign up and pass the list around. Okay. Thank you.

Secondly, I've heard all sorts of rumors about some focus groups that took place awhile back in preparation for the public relations aspect of the release of HTDS. I haven't been able to find out who was in these focus groups, what was the purpose of the focus groups. Could you tell me a little bit more about those?

DR. GARBE: I, like you, don't know who was in the focus groups. These were conducted by the investigators at the Fred Hutchinson Cancer Research Center last September. What they did was bring individuals together. They presented them with several different versions of how a summary of results booklet might be laid out. I'm sorry, they presented them with a draft of how the book might be laid out, but they had several different versions of hypothetical results in that booklet. So what the group was looking at was written, essentially, with no effect identified in the examination. The second version where there was a moderate effect, and a third version where there was a very strong relationship.

MS. PRITIKIN: Did the people in these focus groups include members of exposed populations?

DR. GARBE: I don't know the answer. I'm presuming these were drawn from HTDS participants, but I can find the answer out for you and get back to you.

MS. JURJI: Trisha, I can answer that. This is Judith Jurji. The Thyroid Study Team contacted the Hanford Downwinders Coalition and wanted to see if we would volunteer some people to be part of these focus groups. And what we did, we agreed to do that and we gave them -- we didn't hand pick people or anything. We just gave them a random list of people and then had them choose them. So

presumably -- I warned them that this random list might include some people that weren't downwinders that were maybe just interested folks who had signed up on the Hanford Downwinders Coalition mailing list. But, presumably, they said they were going to screen the people to be sure they were in the exposure area.

MS. STEMBRIDGE: Ellen.

MS. HAARS: This is Ellen Haars from the Washington State Department of Health. CDC and Fred Hutchinson has certainly been beaten about today and in the press, also, about the way they handled the delivery of this. Hindsight is easy. Have you given much thought to how you would do it if you were to do it again?

DR. GARBE: Yeah. I don't think I have enough time to tell you all of the things I have been thinking about.

MS. HAARS: Maybe one thing that you would do differently.

DR. GARBE: Just off the top of my head, yes, I would write it all myself so that I would be able to be sure that it said the things that I wanted to see said so that we brought a balanced perspective to the message. I wish I could do all of the things myself that I think need to be done, but my days aren't long enough for that.

MS. STEMBRIDGE: I will take one final question from Louise and move into hearing from Louise and Judy about their experience at the public day at the National Academy of Science as they began their review of this study.

DR. KAPLAN: Paul, this is Louise Kaplan again. Something that seems to be somewhat fundamental to all the questions that we're asking about this is that the basic question that I think most of us thought had been asked about thyroid disease and Hanford exposure was whether or not exposure to radioactive iodine-131 from Hanford increased your risk of thyroid disease.

And there are two things that I've heard today that I heard discussed at NAS and I find somewhat disturbing. I don't quite know how to sort this through. If you do a study and you anticipate excess thyroid disease because of the screening methods that you use, it almost seems as if you're saying that inherent design -- that the design of the study is inherently flawed because you're going to find more thyroid disease when you go looking for it. So it seems to me on some level either you have to stop saying that and say this is what we found or you have to explain how you adjust for finding more thyroid disease and what the bases is that you use for your comparisons.

And in that vein, I think I clearly heard Tom Hamilton on the telephone, during our HHES briefing, say that there were studies of other populations which were finding high levels of autoimmune disease when you went out looking for it. So, if those studies are being done, I think that either those studied have to be used to compare this population to, or this population has to be compared to a nonexposed population to truly answer the question.

And it seems to me that the other fundamental question that I have about this is, if you keep looking for a linear dose response, are you possibly looking for the wrong thing? Because what you may have is some threshold response that is different in this population because it was a chronically exposed group over a long period of time with potentially low doses at each time of exposure.

So I think there are a tremendous number of questions that are still out there. And I do have

questions about the data collection. I think some of the confounders that were dismissed were dismissed without good cause. But I think, given the data that we have and the examinations being as thorough as they are, there is some very excellent data that I think needs to, perhaps, be reanalyzed with a different set of questions -- or with the primary, rather, not a different set, but the original question and looking at it in a way that perhaps hasn't been done.

I think the specific thing I would really like you to address is this explanation that we keep hearing that you are always going to find more thyroid disease when you look for it. Why does that keep coming up? That is what you wanted to do is find out what the thyroid disease was.

DR. GARBE: It's probably a hard question to answer in a short period of time, but I'll try. If I don't get it to your satisfaction, I would be happy to talk with you more in a telephone call or at some other point very soon so we hopefully get a clear understanding.

Because we expect to find more disease when we go looking for it, and we would observe, if we just collect medical reports that, by itself, for me, underscores the need for using a dose response type of analysis. An alternative would have been to do as intensive an investigation in a completely unexposed population. And that would be an appropriate epidemiologic design; however, the logistics of trying to identify a separate population that would be comparable to the HTDS participants in every respect except for the radiation exposures, I think would have been very difficult and very costly.

So that is one of the reasons that the design for this study focused on the use of the dose response analysis in a cohort study. What, essentially, becomes what we call an internal control group. That is really the way I describe it to people. If I'm still not making that clear, I would be very happy to talk more with you and we can try to work through how the design questions were considered and what the thinking was where that brought the investigators to choose this design rather than a different kind of design.

DR. KAPLAN: Paul, I understand why you chose this internal control design, but it doesn't explain the incidence of thyroid disease. I could say, yes, you're explaining that you're finding more because you're looking for it. But I don't think that clearly explains what you could have expected. I mean, how did you know exactly what it is that you can expect to find if you don't go out and screen a population? So if you don't take a nonexposed population and screen them the same exact way, how do you know what you would have expected? There is no reporting for thyroid disease.

DR. GARBE: To look at whether the thyroid disease that is seen in the community is related to Hanford, it's possible that the Hanford area, for reasons totally unrelated to Hanford emissions, has higher thyroid disease than other communities. There are varieties of other potential causes for thyroid disease. And I don't want to sound like I'm dismissing individuals' experiences or concerns about Hanford emissions as a cause for thyroid disease by saying that. But that is, when we consider the question on a population level, that is a very real one to deal with.

MS. STEMBRIDGE: All right. I want to move on and hear from Louise and Judy. This is not the end of this effort. And part of what we are charged to do, I think, over the next day and a half, is wrestle through how this subcommittee wants to be involved in developing and submitting a set of plenary recommendations in this public comment period. Because I think -- I would be surprised if there was anyone in this room who would look back at the end of January and say that entire process would not have been vastly improved if this group had been better involved. I would like to do what we can to learn from this experience and work with the agencies to ensure that this doesn't happen in the future.

So that being said, I would like to hear from Judy and Louise about their adventure in Atlanta.

MS. JURJI: It was quite an adventure in the respect that this came kind of suddenly. We didn't really know when this NAS review would happen, and suddenly we got the call that we were invited to come.

I have to say, first of all, I wanted to really thank Lynne for fighting to get us and get representation from the Hanford Health Effects Subcommittee to this National Academy of Science peer-review meeting. They are not used to really hearing from the public that much. And luckily, I think for us, CDC has this commitment for public input and supported that effort and paid our way to go back there.

There were three of us invited to go, and Louise, myself, and Glyn Caldwell. And unfortunately Glyn Caldwell couldn't come. When we got there, we discovered that, actually, we were only invited for one day. The second day the group was going to meet and no public was allowed. So, in essence, we didn't really get to hear when they got down to the nitty gritty debate or critique or questions about the study. All we were allowed to witness was just the presentation by the thyroid study team to the National Academy of Science panel. And they asked a few questions. Toward the end of the day, we were allowed to get up and make our comments.

My first question when I went in were who are these guys. There was around -- I haven't got the exact number, but it was around 12 or 13 people. They introduced themselves. One was a biophysicist. There was a biostatistician. There was a department of environmental medicine person. There was a radiologist, a radiation oncologist, a risk communicator, a school of public health geneticist, dose reconstruction person from the University of Utah. There was a health physicist, another statistics person, an historian of medicine, and endocrinologist. Now, the endocrinologist I happen to know because it was Dr. Arthur Schneider, who is on the advisory board, the board that has been advising the Fred Hutchinson thyroid team right from the beginning and advising CDC as to the thyroid study design.

So I thought it was rather odd that that was their one endocrinologist. And I immediately raised my hand and took exception with that and said, you know, not to disparage Dr. Schneider's presence but why do you have just one endocrinologist or one thyroid expert when this study really -- it's about thyroid disease and that the findings are very controversial, and the one thyroid expert that you have on this National Academy of Science panel is someone that really helped design the study. And if that isn't conflict of interest, I didn't know what was. But they said, "Well, he was not really a panel member, a voting panel member, he was brought in as a consultant."

Again, I don't have any problem with the fact that he was brought in as a consultant, but I did have a problem with the fact that that was the only thyroid expert, really, on that whole panel. There was no others except for that person who helped, in essence, design the study.

So my first thing I had to do when I got home was to write a letter to the president of the National Academy of Science, bringing that point up. Because I was really at the meeting on behalf of HHES, I really couldn't, you know, write this on behalf of HHES, so I did write it with the Hanford Downwinders Coalition letterhead. And you will see that letter there. Essentially, what I'm doing is trying to request that they bring in some thyroid expertise to that panel.

As yet I haven't got a response. The response that they gave me when I did bring this up, the chair of the National Academy of Science said, "Well, the reasons that we sometimes just use the same people over and over again is, when you get into the field of radiation and health, there just aren't that many experts out there." That is true. I know that that is true. But how many people do dosimetry and that kind of thing? It's a rare field. The endocrinology is not that rare. There are a lot of thyroid experts. So I didn't buy that reasoning.

So then I pretty much proceeded to just tell them, you know, again, without any guidance from Lynne or this committee, what really our role was, I pretty much just winged it. And I got up, and I pretty much covered the points that you will see in this letter if you read them. But I first told them that they

needed to hear it from the public. The public who were exposed were really just truly stunned by the study results. I mean, people were in shock. But, luckily, I've gotten a number of calls before I went to this meeting so I had a lot of feedback from people as to what their concerns were. One of them being, of course, just the analysis is the uncertainty analysis that this whole study is almost like something that has been built on a house of cards and that house of cards is the dosimetry and whether you've really got doses that are concrete enough to build an epidemiological study on. I've told the group that I thought they really needed to get into that dosimetry question. It's kind of a Pandora's box that probably nobody wants to go there, but you will have to go there and deal with the uncertainty of the doses.

We also brought -- I brought up, and I think Louise, as well -- that the thyroid study is incomplete at this point. People don't realize that one big major component of that study was to deal with uncertainty of those doses. If you've ever looked at the study design, it's this very long, fancy mathematical formula that Ken Kopecky had come up with. And he acknowledged very recently that the formula didn't work. So they are kind of back to square one. If you can't factor in that and deal with that certainty, then what were you doing with a study like this or what does it mean for the study results if the uncertainty can't be analyzed in any meaningful way?

I also asked the NAS committee to look at the recent findings by Owen Hoffman regarding errors in the HEDR. Those are errors in the HEDR project that even Battelle has acknowledged so there is some recalculating of doses that are going on. This could have an effect on this study. I asked that the National Academy of Science committee analyze the assumptions that establish the foundation for the claim that the study researchers had the statistical power to conduct this study, and do they, in fact, given the uncertainty of the doses, did they have statistical power? Because the statistical power depends on those doses being credible. So I'm hoping they will really take that issue very seriously, just the astounding number of thyroid diseases in a study population in their '50s. I mean, does screening bias, that is, if you look, you find? Does that really account for the high number?

This gets into what Louise was trying to bring up. I mean, apparently there is no real study that you can point to that does a comparison thyroid analysis where they actually do ultrasound and have two doctors look at your thyroid and all that. Would they have found -- if you had such a study, say you went to Maine and took a group of 3,000 50-year-olds who supposedly have not been exposed to any radiation and did those kinds of thyroid exam on them, would you find that three or more or would you find 34 percent with thyroid disease? I mean, it's just astounding to me.

Again, that brought up the point why they needed some thyroid expertise on that panel because I don't think that you can just make those kinds of assertions or conjectures. We just had a conjecture from the CDC spokesman here saying that maybe there is something about this population that accounted for the thyroid disease. Well, that is just a guess. We need to know if that is really true.

We thought the information regarding the high mortality in the study population is inadequate. There is 20 percent more deaths than you would expect to find. We need to know where were the deaths. What years? What were the causes of death? They need to do a much more in-depth analysis of the deaths. And there was a certain number of people that refused to participate due to illness or impairment. Well, what kind of illnesses did they have? They mentioned one person who had thyroid cancer and who didn't want to participate. But in many cases they don't know why people didn't want to participate who refused to be in the study.

There needs to be more information about the people with neoplasm and ultrasound detected abnormalities. They need to kind of graph this all out: Where were they born? Where did they live in 1945? In places where the thyroid study said the findings were not statistically significant, do they have the data, the statistical power to draw these conclusions? For example, did they find a slight dose relationship with those neoplasms and abnormalities found through ultrasound? That is the only place they found a slight dose connection, and yet they say it's not statistically important; it's probably just

chance.

Out-of-area people, they say, "Well, you know, as many out-of-area people got the thyroid diseases as people who lived in the area that is close to Hanford." Well, you know, we need to know where those out-of-area people lived. I mean, some of them may have still lived close enough to have gotten the contamination, both from Hanford and, perhaps, the Nevada Test Site. And they acknowledge that a lot of people may have moved just outside of the HEDR map. There also may have been people that were part of the Manhattan project, that they lived here at Hanford and then they moved out of the area but they moved to Los Alamos or to Oak Ridge because these were nuclear workers and many of them went to one site or the other. That may explain why the out-of-area people got as much thyroid disease as they did.

There needs to be a graph that would show all thyroid outcomes. They pretty much just focused on each individual thyroid disease. But one of the NAS scientists there kept pressing the thyroid study for a graph that would show the big picture of all the thyroid outcomes. I agreed that that needed to be done.

We also just brought up some questions, or I did, should this study have taken 10 years to do and were there other studies that could and should have been done to answer the question of Hanford's impact to the health of the population exposed? In other words, we put all our eggs in one basket. We got this one study, and it took so long. I asked the chair, William School, afterwards, whether this was a legitimate question to ask the National Academy of Science panel. He said, "Actually, yes. They could deal with a question like that. Is this the right study?" So I'm hoping that they will do that.

Then the last thing was just, has the impact of exposure from the Nevada Test Site been adequately factored in? And we felt they hadn't been. So those were things that I had just come up with really on my way to Atlanta on the airplane. I had numerous thoughts since and probably want to add to this. I made it clear that when I spoke that this was one individual member of HHES speaking, that there would probably be other members or maybe the group as a whole will have recommendations or questions for the National Academy of Science to work on. And I hope that is the case, that you will all communicate with them because they need to hear.

MS. STEMBRIDGE: I want to just -- if there are members of the public who have been waiting to make public comment, that we had said we would take at 3, I would like to ask your indulgence just for five more minutes so we can wrap up this part of the agenda and give you our full and undivided attention before we move into your workgroups. I know we have gone over our time when we said we would take public comment, and I ask for your indulgence just for a few more minutes so we can hear Louise's report. Thank you.

DR. KAPLAN: I think there were several things about this meeting that I found very illuminating. One is, Judy told you the composition of the committee. I think that is a very critical thing for you to think about. Clearly, this is an epidemiological study and several members of the National Academy of Science Review Committee did not actively participate in this discussion, did not ask questions. And it was very clear who had read the study and who had not -- who did not appear to have read the study. There were several key people who asked questions who were clearly very well informed about the issues that are yet to be reconciled. So I think that is one thing that you need to know about this committee so that when you look at the results you have that in the back of your mind.

One of the key things that I asked about was the doses. And the reason I asked about the doses several times was because in the 1994 representative Hanford radiation dose estimates of which many people were critical because they thought the doses were too low, the maximally exposed individual from the air pathway, which I remind you are all talking about the air pathway, received an estimated dose of between 54 and 870 rad with a median dose of 235. And in the Hanford Thyroid Disease Study, which

included the population likely to have been most exposed from the air pathway because of location, the maximal dose was estimated to have been 284 rad. And so I asked about this discrepancy. And I want you-all to think about this because this discrepancy, to me, raised a lot of questions. One of which is: Was the IDA model correct? Were there problems in recall? -- which people have raised questions about all along when you go back 45 or 50 years -- Do people have questions about recall? And if the model -- I did ask if there was some way that they kind of double checked their results, and they said, "Yes, they used defaults." And clearly this was the highest dose that they had gotten.

I have to say that some of the members of the committee were -- it felt to me were somewhat uninformed or somewhat biased about this. When I asked this question, the first thing that happened to me was that the chair of the committee -- I'm telling you this because I was a little chagrined at this -- the chair of the committee turned around and said, "Are you asking a question or are you debating this?" as if it was inappropriate for me to have a scientific debate with a scientist.

I was not very happy with that, nor was I happy when one of other members of the committee said, "Well, that is because the maximally exposed person only drank goats milk," which was not at all what the HEDR model was. This is actually what went out of my mind -- it just came back in -- not only did some of the people on the committee not seem very well apprised of Hanford and the Hanford Thyroid Disease Study, but none of them knew what the Hanford Health Effects Subcommittee was, which I think is a very serious problem, in terms of how they view our comments to them.

So I took a couple of minutes of my time to explain to them who the members of the Hanford Health Effects Subcommittee are. I had the sense that they were viewing us as interlopers as opposed to members of the informed public. And, furthermore, what Judy didn't tell you is that she very passionately spoke about the fact that, perhaps, this meeting should not have taken place in Atlanta but should have been in the Northwest for members of public to have been able to attend.

In my letter that you received, I clearly asked if they would please consider that any future meetings that relate to the Hanford Thyroid Disease Study take place in the Northwest so that people have an opportunity to communicate with the community directly.

So that is the highlights. My letter was distributed to those of you around the table. There are copies on the back table for those of you who would like a copy. I welcome any feedback that I can get from you. Much of what you heard me ask Paul Garbe were the issues that I've raised in my letter. I am very concerned that this has gone out to the public as a final report when, in fact, it is a draft report. I really urge each member of this committee to thoughtfully reflect on what is in the summary report. And for those of you in the public who are here to give us your feedback and to, perhaps, attend my studies workgroup when we finish up here so I can get comments from, as well and your input and ideas, on how we should proceed from here.

MS. STEMBRIDGE: Thank you, Louise. Thanks to both of you for going. Judy alluded that this all came together very quickly. There was no opportunity when we made the recommendation in December that members of the subcommittee be involved. We had no way of knowing if, when, or how it would happen. I think despite, perhaps, some of their misgivings, I have no doubt but they did a sterling job of representing us. And it certainly brought back a picture of that review process that we would likely not have in our minds if they had not been there.

So at this time I would like to ask if there are any members of the public who would like to offer comment at this time and invite them to step to the microphone. You're welcome to identify yourself for the record. You are also perfectly welcome to not identify yourself as well.

PUBLIC COMMENT

MR. BUSKI: Norm Buski, the public again. Let's see, why don't I not bother with the hat this time. What I tried to address before was just outside of science or sort of the outside bounds. There is one other little item there that I think is important, and that has to do with the context of this HTDS and that is in the executive summary, right as you come to the end, the next to the last paragraph, that is summarized and it says, "There is little evidence in the literature to suggest that persons exposed to radioactive iodine at the levels found in this study over a period of months or years would experience higher rates of thyroid or parathyroid disease as a result of this exposure." In other words, these results were what was expected and nobody really thought that they would have a dose response.

Well, listening to this, my impression is a lot of people were really quite surprised. I think characterizing the literature that way is not productive. Thank you.

MS. STEMBRIDGE: Thank you, Norm. Are there any other members of the public who would like to offer comment?

AUDIENCE MEMBER: My name is Gretchen. I'm a downwinder. I'm very emotional right now. I'm not a public speaker. I have never participated in any way. I might be what Judith calls one of the ill people that never stepped forward.

I have autoimmune disease. My children have autoimmune disease. When this study first began many years ago, I called a researcher at Fred Hutchinson and I said, "You know, I grew up right there and everyone I know has had a stillbirth. Everyone of my friends had a stillbirth or children with immune disorders or leukemia. Why aren't we studying this? Why are we, as a community, picking out one isolated subject area and researching one isolated group in one isolated area?" I volunteered to be a dynamic for this study, and I was rejected because I was born in 1949 and because I was a female and because they weren't looking for the kind of information that I had to tell them. This group did not want to hear about people with other illnesses.

And the travesty is not what happened to me in 1949 or 1950 or '51 or '52, '53, what I ingested, what has happened to my life, because those are personal things. But I will tell you I have suffered. I suffer every day. And the real tragedy is, the DNA in my children, I truly believe, is altered because of what I have given them. They suffer every single day. My daughter went to WSU to become a police officer, but because of her immune disorder she cannot be one.

She cannot work for the immigration service. She cannot use her college education. You are all responsible for that. All of you. Every one here. We are they. All of these scientists that were on this project, I wonder if they would offer up their children for low doses of radiation on a regular basis just to see what would happen and then have someone excuse the bias or to be so narrow-minded in their scientific exploration that they can honestly say this is the truth.

Truth is relative. A truth has been denied here for over a 10-year period. We have taken a sliver of what is supposed to be true, and we are calling it true, and it is not. And all of you, every one here is responsible by the sin of omission, or by the sin of transgression in what is happening, not only here in the Northwest, but in other areas because we set a precedent. And I owe this to my children to be here. I'm not here on my own strength. And God forgive all of us for these crimes against humanity.

MS. STEMBRIDGE: Thank you, Gretchen.

Other member of the public who would like to offer comment.

MR. CONNOR: Tim Connor again. That is very hard to follow. I guess I was just as upset at what Louise was relating about her experience at the National Academy in Atlanta. That is a part of this. The people are experiencing like a hammer is that suddenly this wasn't about -- this was just about a

scientific exercise that we could afford to do with the taxpayer's money. It really lacked wisdom. It lacked humanity, and it's infuriating. I deeply feel responsible for that, as somebody who has been in the process of trying to offer the government advice on how to do these things the last ten years or so.

So the last words spoken in this microphone resonate well with me. I would just repeat what I said this morning. This is a crisis. This is really a crisis for the belief that we could bring the public together with scientists and do good things. Because science is capable of doing good things. It can't very well do much unless it relies on private funders without the public support and its tax dollars and consent. And we are really at a crisis with that. And this study really underscores it.

I'm just really angry. I'm really angry that you had that experience on top of everything else that was experienced a week before. It's not a laughing matter. Although, when I was sitting with Lynne, listening to the first information come over the speakerphone in our office on this, we were laughing. It was sort of the gallows humor of knowing the kind of frustration and pain that we were going to be dealing with.

I'm rambling a bit. I just wanted to share with you again my commitment to the extent that I am staying involved in ACERER and can do what I hope I do sometimes, as well as to try to get to the bottom of this and get some accountability. It may be too little, too late, but I think it's there to be done. I hope we do it well.

MS. STEMBRIDGE: Thanks, Tim.

MS. OGLESBEE: Gai Oglesbee again. One of the things that HTDS has done for all of you is going to do nothing for me because my case is already in litigation. But what it is going to do for you is make you take a second look at your own futures because the government in setting you up to have a look at down the road. You can't clean up Hanford, so what is going to happen?

We have the flu epidemic. Well, yeah, we have bronchitis. We have this. We have that. We have heart disease. We have thyroid conditions. This isn't about my case. It's about your case in the future. The justice department has passed a legislation where you must report your ailment within five years or you're out. Plausible connection is demanded by Congress so if the HTDS issue is just put in a file drawer, there will be another scientist, another scientist that will keep disavowing this illness, these illnesses that we have.

One of the things that I want to bring out and I didn't bring out this morning was, and why I got up here again, is because there is two people in my family that are being monitored by the government. The government got caught. They had to pay. But the only thing that is being monitored is their health every three years. One is a Gulf War veteran. The other one is my daughter who was exposed to beryllium at Rocky Flats. She has two problems, because she lived at Hanford.

Now, why is Hanford such -- why is it so close and why is it not being looked at like other areas look at their nuclear energy? Because my daughter was very ill after she got exposed to beryllium but she wasn't notified for 12 years. Maybe you will be notified in 12 years that you had a problem and you about it. They take her by plane every three years somewhere or she goes to Las Vegas. My son-in-law is right there. He gets monitored by the government. He goes home. He is very ill. His health is deteriorating.

But Hanford people -- my other daughter and I who were downwinders, nobody even pays any attention to us. So the correlation there is a lot different outside of this area than it is in this area. We're just overlooked here. And I don't know what it is about Hanford, but it's just, look, you cut it off here. And the government just wants you to look like it's something else.

So the HTDS is for the future. It's not for the downwinders now. We won't even pay any attention to it. We will just run right over it. And our experts are already doing that, so think about that for your own future.

MS. STEMBRIDGE: Thanks, Gai. All right, at this time I would like to adjourn us into our work group sessions. The two workgroups that are meeting this afternoon are the PHAWG, the Public Health Activities Work Group, which will be having a discussion about the draft amended Medical Monitoring Program, be meeting in this room. And the Studies Work Group, which will be meeting in the Clearwater Room, which is right directly across the hall.

Now, tomorrow morning our second round of work group sessions will convene from 8:30 to 10:30. The Public Health Assessment Work Group or the neo-PHAWG will be meeting in this room. And the Outreach Work Group will be across the hall in the Clearwater Room. We will reconvene as a plenary in this room at 10:45 tomorrow morning. Are there any questions? Louise.

DR. KAPLAN: Who is chairing the Public Health Assessments Work Group tomorrow?

MS. PRITIKIN: My mother was diagnosed on February 2nd with terminal cancer. It's melanoma, metastasized, Stage 4. She is dying and going into liver failure, so I have to go back tonight. And I wanted people to know that. Also that is the source of the question, I won't be here to convene that group.

But I was telling Ricardo earlier how much it means to me when he puts his card up and tells us when someone who lived in the downwind area has become ill. My brother is dead. He died in 1947. My father died of thyroid cancer three years ago. And now my mother is dying. And I'm the only one left. And we were a family that lived in the downwind area. That is all I have to say.

MS. STEMBRIDGE: So, Louise, the answer to your question is, it is not clear to me who is going to be convening that work group. What I'm trusting will happen, much the same as is going to happen with the PHAWG this afternoon, is that someone from within that group will volunteer to facilitate this meeting or tomorrow morning's meeting, fill out the forms, and do the report back.

I think, generally speaking, the folks in these work groups have been participating together for some time and can pick up the slack when the convener is not here, even on such short notice. Louise.

DR. KAPLAN: I knew Trisha wasn't going to be, and I know Glyn is not here. I'm not clear who is on the subcommittees any more and we have new members. So I guess I have a particular concern because I have attended these meetings, but I'm not clear that I have a handle on these issues to adequately chair it. I'm fuzzy about who else is on that committee.

MS. STEMBRIDGE: Del will be convening neo-PHAWG in the morning across the hall. You're right, outreach is across the hall. And for the benefit of new members, these work groups are completely self-selecting. You can alternate work groups during meetings. You can alternate between meetings and go to different ones. It is not a life sentence to show up at one of these work group meetings.

The Public Health Activities Work Group have dealt primarily with the development of the Hanford Medical Monitoring Protocol and the Iodine-131 Subregistry. The Studies Work Group is fairly self-explanatory. I'm confident that a big part of their discussion at this meeting is going to be related to the thyroid disease study.

The Outreach Work Group convened by Marlene Nesary conducted a survey of the members, and we will be reviewing those results. And there was also a pitch about how are we going to do outreach for the medical monitoring when the money comes through. And the neo-PHAWG is focused on the Public Health Assessments that ATSDR is doing for the site and the development and the redrafting of those documents.

So I applaud your tenacity and your stamina and your attention. Have a good series of work

groups and we will see you all back here at a quarter to eleven tomorrow morning.

(Meeting adjourned at 4:35 p.m.)

KENNEWICK, WASHINGTON, FRIDAY, FEBRUARY 26, 1999

MS. STEMBRIDGE: All right, folks, I think we are going to go ahead and get started. We have a couple of speakers on our agenda first thing this morning. The first of these will be Tim Takaro from the University of Washington. And we have a couple presentations on two new worker health surveillance programs at Hanford. So I would like to ask you to please take your seats and give Dr. Takaro your undivided attention.

DR. TAKARO: Thank you very much, Lynne. It's a pleasure to meet with you again. I've seen many of you in other forums and presented a couple years ago to the Hanford Health Effects Subcommittee, so it's a pleasure to be back.

First, one disclaimer, as the agenda suggests, I'm not from the United Nations of Washington. The university does have a big ego, but it's not quite that big. I am one of the coinvestigators on a project called the Hanford Production Worker Former Worker Project, and that's what I would like to describe to you briefly today.

These are some of my coworkers. The locators, the data managers, and clinical team affiliated with the former worker project. In 1993 the Defense Reauthorization Act stated that "The secretary shall establish and carry out a program for the identification and ongoing medical evaluation of current and former workers of the Department of Energy who were subject to significant health risks as a result of exposure of such employees to hazardous or radioactive substances during such employment."

This was a long effort on the part of many labor organizations, in particular the building trades, and oil, chemical, and the Atomic Workers Union, to address significant hazards that workers have been exposed to. And which, during the period of the Cold War, were largely suppressed because of secrecy concerns, at least that was the purported reason, and it was felt, finally, in the early '90s, that these concerns needed to be addressed. This program was meant to do that.

We, at the university, were very pleased to hear that because this would be an opportunity, we thought, to evaluate one of the most interesting laboratories for worker exposures in the state and probably in the nation. We are particularly interested in worker exposures, not only because we're committed to healthy and safe workplaces work, but also because we think laboratories, like the workplace, are very useful in terms of providing information about environmental exposures because the exposures in the workplace are generally higher where effects are more likely to be seen.

Of course, you all know the caveat to that, which is that workers are a healthy population unlike the general population where susceptibility factors are very important.

The application was funded in 1996. Phase 1, which was completed in a year, was a hazard-based needs assessment. I will describe mainly the findings from that. We are now entering Phase 2, which is the medical monitoring component of the project, and results are only beginning to come in from this part of the project.

There are two organizations involved in Hanford. The University of Washington is responsible for all nonconstruction workers such as production, maintenance, research, and administrative workers, and the building and construction trades, which Buck will discuss in a moment, are responsible for all former construction workers.

First of all, our responsibility was to determine the need for medical monitoring. This was based on an exposure to a hazard known to cause deleterious effects. Intervention would make a difference for

this exposure and alter the course of disease. This is a very important criteria.

While we know a lot about the hazards, and hazards assessments are very relatively easy to find, interventions, which can make a difference in a course of a disease, is much more challenging. There are many hazards on the Hanford site as well other industrial operations. While we can identify the hazard, we don't know how to make a difference. And radiation is one of the most important ones of these. Solvents and other exposures are also important.

Obviously, one way to make a difference is reduce exposures or eliminate exposures, but for former workers that is not the issue.

And finally, the monitoring could identify substantial impairment for health risk which would reasonably require worker notification. In other words, we wanted to be sure that workers understood what the hazards were that they were exposed to and what they might expect in terms of prognosis.

Well, the estimates in the number of former workers at Hanford range from 120,000 to as high as 500,000. And the big issue there is the sub, subcontractors, this large population of workers who were really never registered as a Hanford worker. But we have located tens of thousands of former workers through these data sets. Some of these may be familiar to you. The radiation exposure data set is PNL. This employment history file is from Ethel Gilbert. The rems is a subset of REX, really, and FloGemini is the medical contractor data set.

Though this we were able to locate 68,000 -- or to identify 68,000 workers. This is just the production workers, not including construction workers, not including deceased workers, and not including current workers. We have had some success with outreach, but I would say not nearly as much success as the building trades. In large part, I think, because we have relied on these data sets to find our people and the building trades, as Buck will explain, have a much more challenging job in finding the people in part because of this sub, subcontractor issue. People don't show up on roles of the prime contractors.

The radiation exposure system is one that if you're not familiar with, I would suggest that you become familiar with. It's a very rich source of data and goes back into the '40s. This provides some internal dosimetry, but quite a bit of badge external dosimetry data on a large number of workers. As you might recall, we had about 79,000 identified through data set.

The OH88, which is the occupational health data set, was the file used for Ethel Gilbert's 1989 mortality study and a subsequent follow-up study that the University of North Carolina is performing. It includes about 10,000 workers who were excluded from Ethel Gilbert's mortality study. We haven't quite figured out what the exclusion criteria were for those. And it includes about 13,000 construction workers, which I assume that Buck's group will eventually catch up with. It also includes this type of data, personal identifiers, date, and place of birth, if there was a death year, job title, and the job code, which was very important to us.

The medical contractor has a large data set which goes back, now, 15 years. It's developed to provide the medical contractors some method of tracking health data through the years. Unfortunately, they haven't really used it. They have collected a lot of data, but not used any of that data really. Not all the fields are populated. And one of the great deficiencies is there are no diagnoses codes in the data set.

PCSR-plus is the security badge data set. This contains the total number of workers who have ever been issued security badges at Hanford, and because of that, it's probably the most complete data set on the site. We have been trying for over two years to obtain this data set, and are still unable to obtain it.

The issues are interesting ones. While the data was collected for the Department of Energy under contract, the contractor is saying that the Department of Energy doesn't own the data, and they won't release it. This currently is under the Fluor Daniel's contract. I find that somewhat interesting that we can pay millions of dollars as taxpayers and then be told what we paid for is not really ours. So even the Department of Energy, which to this date does not have a site roster, in other words, they don't know how

many people are working on the site today, is unable to obtain this data itself.

DR. CEMBER: Why are the contracts written that way then?

DR. TAKARO: Well, in fact, the contract says very plainly that the data belongs to the Department of Energy. But the legal teams have been unable to extract this from the contractor. It's one of those bureaucratic snaffoos that is stranger than fiction. We still have confidence that we will obtain this data. We have been assured by the general counsel at headquarters that we will obtain this data. Maybe my children will be able to work on this data set.

This gives you some idea of where we are as of, actually, November 1998. We have mailed out almost 5,000 initial contact forms. This is a way of seeing if our data is correct, that the person is alive and can be reached through the address that we have.

We've had about 1,000 of them returned by the post office, in other words, we had a bad address. We received over 2000. And of those 2000, we have over 1,000 that are eligible. Now, this is a very small number compared to the number that we think is out there, but this is where we're starting, with about 1,000 workers.

These initial contacts come from the following states. By and large, we actually had about 40 states represented but very low percentages, and this is the top five. So you can see, as expected, most people are in Washington. Remarkably enough, as the Hanford Thyroid Disease Study also showed, a large portion of these are still in Washington.

These are the eligibility criteria for our project, production or maintenance work history. The history of work at Hanford as a DOE or a contractor employee, we would be happy to include all the way down to the end minus one subcontractor. We are actually more interested in the subcontractors in many ways because studies have shown in other industries that it's the subs, subs that are brought in for quick jobs that are probably the most exposed because they are called in to do the dirty work. So we are not restricting at all. We would like to find these sub, subs if we could. The worker has to sign a consent. They have to complete a work history. They cannot be a current worker, and they must be alive.

In reviewing the hazard list, we came up with these three hazards on the site where medical monitoring might make a difference. This is the reason why, for asbestos, smoking cessation can reduce risk. We now have quite a number of good tools to get people to stop smoking. If pulmonary fibrosis is present, knowledge of a significant exposure can eliminate the need for open lung biopsy and more invasive procedures because you know what the fibrosis in the chest x-ray is from, or at least have a reasonable supposition.

For beryllium disease early diagnosis and treatment may decrease the morbidity of the disease. And it's extremely important, we think, for exposure assessment, especially at a site like Hanford where four to five years ago the medical contractor said, "We don't have a beryllium problem here at Hanford." And we have been able to demonstrate, in fact, that there is a beryllium problem here at Hanford. And with the help of the other monitoring programs and now our own work with the Consortium for Risk Evaluation with Stakeholder Participation, we have been able to demonstrate to the Department of Energy that Hanford does, indeed, have a beryllium problem.

Finally, noise provides, in a similar way, motivation for protection of workers from noise. This is -- when we think of a no brainer, noise has been well recognized as an occupational hazard for decades, but at facilities such as this one, not much has been done, at least until recent years, to reduce the hazard. And, finally, for the individual, hearing aids and compensation are available through the compensation and workers need to be aware of that.

I'm sorry, how am I doing on time?

MS. STEMBRIDGE: You have about 15 more minutes. We need a little more time for questions.

DR. TAKARO: I'm going to describe some results from the FloGemini, which is medical contractor database, just to demonstrate, in fact, that there is disease in this population, disease that we are beginning to find in the monitoring program where our numbers are not very robust yet.

These are mixed obstructive and restrictive disease in the lungs. Restrictive disease and obstructive disease in the lungs by COCS code, which is the Common Occupational Classification System code. What one could expect, in a population of this age, is about a 5 percent rate of obstructive disease, about a 3 to 4 percent rate of restricted disease, and about a 3 percent rate of mixed restricted and obstructive disease.

You can see that, for many of these COCS codes, there is an elevated finding of disease. And I would look at the percentages to give you that.

This is not terribly unexpected. We would have expected in painters, for example, to find obstructive disease. We would expect in millwrights to find restrictive disease. We would expect in the plumbers and pipe fitters to find both, and in utility operators obstructive disease is quite high and about what one would expect considering the exposures. These most important being silica dust, asbestos, and probably heavy metals that some of these millwrights, for example, were exposed to in addition to the beryllium, which is not yet well characterized.

For hearing, the medical contractor has 25,000 audiograms. These are hearing tests. Many of you probably have had them and put on a headphone, listen to a beep, and push a button when you hear it. And in about a half dozen frequencies determine any hearing loss. If you have a series of these tests over time, and that series of tests over time is called the Standard Threshold Shift. What that means is you have a greater than 10 decibel loss in hearing between -- usually annually, but between two tests, and as you can see, 3500 workers with such hearing loss.

Now, much of that is attributed to presbycusis or age effects. Older people have more hearing loss. In the higher frequencies, in particular, if you do an age adjustment, which is a rather conservative age adjustment, in other words, I think with this particular age adjustment, many people have noise induced hearing loss but it's chucked to their age.

In any event, there are still 1400 workers in this small file with significant hearing loss. And in terms of compensation, a mean percent whole body impairment is a rating scale. This 6 percent means that, on average of these age adjusted hearing loss, they would be compensated at 6 percent, a back-of-the-envelope calculation brings us to about \$20 million based on just this small group of compensated, or I should say, in this case, mostly uncompensated hearing loss.

MS. MOSES: How did you come up with the 6 percent?

DR. TAKARO: Labor and industries has a scale, which, based on the Standard Threshold Shift, age adjusted Standard Threshold Shift, actually, apportions what that is worth. It's easier to think of in terms of lost limbs. You lose a finger, that is worth \$4,600. You lose hearing at a certain frequency, that is worth \$5,000. The whole human being has gone up now to on the order of \$250,000, so it's a portion of this value of the human worker.

I don't want to get into this formula because it's all bogus as you can imagine. But this is the way that the compensation system works.

So this is hearing loss by COCS code. The ratio described here is based on an average. We took the whole population and found out what the median loss was, called that 1, so the ratio is everything above that line, in other words, median for the whole population, which included managerial, secretarial staff, et cetera, people who wouldn't have noise exposure. So what this shows, simply, in industry or in

jobs where would you expect to find noise exposure, we did. The welders, the mechanics, millwrights, painters, carpenters, metal fabricators, all of these have ratios above the median for a population.

Beryllium is a much more complicated issue for Hanford, mainly because there is not much exposure information. And, as I said, four years ago the medical contractor was saying we don't have any beryllium problem because they weren't looking. It's kind of odd because this is one of those right-hand, left-hand problems. The right hand was making surveys, was finding beryllium. The left hand, the medical contractor, wasn't told, so people were being diagnosed with sarcoidosis, which is often confused with berylliosis, and because the medical contractor didn't know there was beryllium, or at least states they didn't know, these diagnoses went forward as sarcoidosis which is an idiopathic diagnosis with no known cause. So that was missed for quite a while.

We determined through a job exposure matrix that up to 13,000 workers may have been exposed to beryllium, based on the building in which they worked. We did not refine this by job code, but that may not be so important because beryllium is exquisitely toxic for sensitive individuals. Secretaries, spouses, even a reporter that walked through a beryllium facility has contracted beryllium disease. So for those individuals who are sensitive, and that is probably on the order of 3 to 5 percent of the population, small amounts of beryllium are very important. So I think this number, while large and refuted by the DOE, is defensible on the basis of the toxicity of the substance.

We had -- these are other designations -- I will just point out one thing -- of these 13,000 workers we can only find 117 that have ever been in the surveillance program so this is that right-hand, left-hand problem. A lot of workers needed monitoring, need monitoring but haven't yet gotten it.

MS. MOSES: Is there any way that you can go back and have the medical contractor review the misdiagnoses of another one, whatever?

DR. TAKARO: No. Because as you recall, there is no diagnosis code in the medical database. So the only way to find these people is through such a program as ours, where you go out looking for them and telling them that you worked in this building during these years where beryllium was used, you should get this test.

MS. MOSES: Because it seems like there are a lot of people that are not getting that test because of the way it's been captioned.

DR. TAKARO: That is correct.

MS. MOSES: And it's really been -- the legal term, I'd hate to think what it is, but if I was a person -- if my disease was misdiagnosed by a medical person hired by a contractor -- it just seems like there is a trail that is quickly being quickly swept over.

DR. TAKARO: It is being swept over in the sense that this is an ageing population -- and I will show you that in just a moment -- and people are dying. In that sense the possibility is being lost. On the other hand, this program is meant to, in fact, find these people, let them know that there is a potential for them to have this disease and get them into a program where they can be monitored for it.

MS. JURJI: I just wondered, I was asking Louise, but I thought maybe you would be a good person to ask. What is beryllium disease? I don't think many of us know what it is.

DR. TAKARO: Beryllium disease is a lung disease. It's caused by breathing in the beryllium

dust. It causes an immunologic response in the lung. In fact, it is very similar to sarcoidosis. Sarcoidosis is an immunologic disease as well. It produces fibrosis and granulomas in the lung which prevent the lung from -- over time, from expanding enough and reduces the air that the individual is able to breath by virtue of this restricted lung expansion. A simple quick explanation. Is that adequate?

I just wanted to point out that the Consortium for Risk Evaluation with Stakeholder Participation, CRESP, has been sort of pushing the envelope on beryllium disease here at Hanford. And we now have about 100 workers that we have been able to find through this program to get sensitization information on. And this will help, in terms of developing more sensitive tests, as well as, hopefully, pulling in more workers. We, in the prevalent study, will be combining results from the building trades, our own former worker program, as well as the CRESP prevalence study. This will give us much more robust information.

Unfortunately, to date the medical contractor has refused to provide us with even the identified data on their own beryllium program, so we won't be able to -- at least in the near future -- be able to combine all this information. The value of combining all the information would be that we can begin to hone in on what buildings are most important when it comes to beryllium exposure and what jobs are most important, in terms of producing the disease.

MS. MOSES: Who is the medical contractor?

DR. TAKARO: Hanford Environmental Health Foundation. These are some estimates on who will enroll in the program. This is based on the 1 percent of the total population being a current worker. One percent being dead or 90 percent being alive. The 90 percent being locatable -- this is based on the Hanford Thyroid Disease Study -- about half of them we think would want to participate, which comes down to a 36 percent factor of the large numbers that you saw at the beginning of the presentation. So of that we expect to have over 10,000 workers with asbestos exposure; 12- or 13,000 with noise. And depending on which estimate you use, between 4500 and 200 beryllium exposed workers.

I think I'll skip some of these. This gives you an idea. This is some worker history questionnaires. These are exposure questionnaires that we have received back so far. We have about 500 of those. This is our participation rate. We have about 3 percent that have declined participation, about 1 percent who appear to be lost. And quite a number who are still out there, we're not sure how to classify them. We have about 500 respondents with detailed worker history. And this gives you the age breakdown. As can you see, as expected, it is an aging work force with most of the people above 50.

DR. CEMBER: That is the current data?

DR. TAKARO: Correct. This is where they worked. This is the summary of the years and various jobs. Fortunately for us, we do have a large number of people who were actually exposed and relatively small number of managers and nonexposed secretaries, et cetera.

Of that group -- this is a very quick and dirty exposure, did you work with or near any of these hazards? As you can see, we are identifying about half of that population that submitted the questionnaire, about half of them do have the exposures of interest.

This is how the exams will break out for that group. This is probably not that important to you, but a number of people have all three exposures, quite a number have beryllium exposure, et cetera.

In terms of other hazards, I think this will be of interest to you from the public health standpoint. We have a large number of people exposed to gama radiation. No big surprise. Also quite a large number exposed to plutonium, lead, chlorinated solvents, irritant gases, and some of the other more common solvents. So there is more exposure out there. What we can do about it is another question. These are some of the other hazards that we would like to consider. But, again, for most of these, other than

removing the worker from exposure, there is not a lot to be done for the monitoring program.

I'll finish up with a couple slides on the radiation exposure. This is from the radiation exposure database that I mentioned earlier, just to point out that some of these exposures are quite phenomenal. This is a shallow dose measured by film badge in 1700 hundred workers -- there were missing values actually for 17,000, which is another story. In any event, you can see that some of these workers are well above what they would be expected to get under the current regulations and these are -- this is an interesting population, I think, to look at for radiation induced disease.

Finally, for a deep dose, which may be even more significant, you still have a large number of workers with very significant doses. And this does not include the internal dosimetry, which we are currently working on adding to this group. I would just point out that one of my particular interests is looking at combined exposures. If you recall some of this data, almost no worker could be expected to have only one exposure. They almost always had multiple exposures over many, many years. And it's a combined exposure such as radiation and asbestos, radiation and beryllium, radiation and plutonium, which I think are going to be extremely interesting from this very knotty problem that risk assessors and occupational health and environmental health specialists have had for years, which is, what do you do with the combined exposures? We always look at one at a time. Here is an opportunity with a great laboratory to look at combined exposures in a population which certainly could use some assistance.

Thank you very much. I will be glad to entertain any other questions if I have time.

MS. STEMBRIDGE: I think what I would like to do is let Buck make his presentation, and then we will come back with the time that we have left before public comment and then entertain questions.

MR. CAMERON: As Tim mentioned, there are two medical screening programs at the Hanford site. I would really like to emphasize these two programs, while completely separate in their target population and in their management, we've tried to bring them as close together as possible so that for the population at Hanford, they basically see a medical screening program that is available to them.

The people who contact Dr. Takaro's program who are from the building trades are referred by Tim's organization to us. We do vice versa when people contact us. So people are not getting the runaround in having to seek out the correct program.

We are focused in our program on former building trades employees. To address their needs, we put together a consortium that I think is really a first-rate group. The entire program is coordinated by the Center to Protect Workers' Rights, which is the research and training arm of the National Building Trades, which will be my employer beginning April 1.

The National Building Trades put together a consortium with the principal investigator being Dr. Knut Ringen, who was the former executive director of the National Building Trades program, CPWR, who is now working out of the Northwest concentrating primarily on this program.

Many of you have read one of Dr. Ringen's publications. If you've worn your reading glasses when you looked at the little sweeteners in the restaurants, the little package -- I don't know if it's Equal or NutraSweet, the little warning on the back that you can't see because it's in the same color as the package, and it's written in about one-point type that says, this will kill you if you eat it. Knut wrote that. He said it's the most broadly published publication that he's ever had and the least read.

The United Brotherhood of Carpenters, our role in this project was to characterize the exposures at the site. And I will talk more about that later. The University of Cincinnati worked with us on that part of the project. Mid-Atlantic Research Foundation, in the person of Dr. Laura Welsh, when we started the program, she was the chair of Occupational Health Department at Georgetown University. Zenith Administrators is a third-party administrator who handles all of our claims and referrals to the physicians. And Duke University, in the person of John Dement (phonetic), does our quality control. We thought it

was very important to ensure that an independent organization was looking at the quality of the medical services delivered.

What did we set out to do? Our objectives were, number one, to develop a notification, screening and intervention program. I want to emphasize that this is not a study. Even though we realize that we're going to generate a lot of information about health outcomes in building trades workers, that is not the primary objective. The primary objective is service delivery to these people, to provide them the information that they need to know about their current health status as it relates to their past employment on the Hanford site.

As I say, we're focusing on building trades workers. This is not a test pilot program, even though I'm told the Air Force is considering building an air strip on the Hanford site, it's to test the pilot program at Hanford by which we mean, as we have done, we are doing similar programs at the Oak Ridge site, and in January we opened our third office at the Savannah River site, all focused on the building trades employees at those sites. So we're turning this into a national model so it really gives us some efficiency using of what we learn at one site to improve our delivery and knowledge of what is happening at the other sites.

I don't think that we need that. The total population available is enormous. The total number of building trades workers who have worked at the Hanford site is over 100,000. That is an estimate. It's not based on any specific database, but rather from our discussions with the various labor unions representing the individuals and other historical information.

A huge part of this group were those who worked here during the initial construction of the site when there was, literally, an army of construction workers camped out here in Richland. Most of those people were able to work because they were above draft age during the war. So they started out being around an older median-age population, and given that this is about 55 years hence, we expect that very few of these people will be alive and available for recruitment into the program. So we've subtracted all 50,000 from our estimate. We have, however, seen, and are quite interested in seeing anybody who is from that cohort who is still available. And we have seen people who have worked on the original construction. A very large number of people worked here during the period between 1950 and 1960 with smaller amounts in later years, to sum up to a total of about 29,000 people that we believe worked here and would be available for recruitment into the program.

Of these we found, as did the University of Washington, that a very large percentage of the people, whoever lived and worked in this area, continue to live in this area, which was a fortunate finding because that facilitates our service delivery a bit. When we say catchment area, we're talking about the area around the Tri-Cities. Very, very large percentage by a zip code analysis are still in this area. About half of that number, in addition, are within the greater Washington, Oregon area and a relatively small number are outside of this general area. California. We have people as far away as Hawaii and Florida.

What were these people exposed to? There was a question yesterday about, "Has anybody ever looked at mixed exposures, chemical radiation, et cetera?" In a way we're doing that because we're looking at the whole spectrum of what people were exposed to in their work years, including radiation, including building materials, et cetera. We're not making any assumptions about synergistic effects. What we're doing is basically summing or trying to sum that whole list of exposures and then looking at the whole person, focusing on those conditions that one would predict that you would find based on those exposures. For example, if a person was exposed to asbestos, we will be doing pulmonary function testing and x-rays. If a person was exposed to silica, we will be doing the same thing. And we may not be able to differentiate what condition directly was caused by which exposure, but at least we will be able to say a person has X types of conditions related to such-and-such an exposure. It's not a very exacting differentiation of condition and exposure, duration of exposure, but it does give some sense of what this cumulative set of exposures lead to in the long run. And because of the age of the people that we're seeing

we really overcome the problems of latency, the time effect and development of disease.

So we're looking -- let me back up here. We're trying to develop an understanding of these exposures based upon the individual's recollection of what they did. That is why we're asking about tasks, what kind of work did you do? The materials that they worked with, you know, did they work with paints, epoxies, lead, mercury? What buildings they worked with? And were they present at any known episodes of releases, criticalities, other significant happenings, fire emergencies?

We're finding we get most of the information from task and materials. Tim had mentioned earlier buildings where beryllium was known to be used. Again, we've gone from a short time ago when that list was thought to be zero to now where we know there is a significant number of buildings where beryllium was used or stored or present for other reasons, including animal experimentation.

We focused primarily on those where exposure was thought to be high, but no matter how we try to focus this down, we find that construction building trades workers worked in such a wide spectrum of buildings on this site, this basically has become an all-inclusive category. Almost everybody who worked in the building trades on this site had the potential for being exposed to beryllium. As Dr. Takaro mentioned earlier because of exquisite sensitivity of sensitive individuals to beryllium, we really had to include in our beryllium modules anybody who did any significant work in these buildings. That is, as I will show later, a very large percent of the people that we've recruited.

The materials exposures that will trigger a medical evaluation are those which cause long-term effects which we have ways of measuring. There is no point in evaluating a 70-year-old former worker for an effect that would have been time limited, that would have been an acute effect 30 or 40 years ago. There is also no point and no way of looking for something for which we have no tool to look for those conditions or effect. But asbestos, silica and you can read the list here.

Mercury, that primarily is a significant problem at the Oak Ridge site, much less so here, other than related to laboratory instrumentation and spills. Tritium is particularly of issue at the Savannah River site. Noise is a significant problem as Dr. Takaro mentioned. Hearing loss is a problem among building trades workers everywhere and a specific problem here. Asbestos was a very, very widely used construction material in the outer construction of buildings, in the insulation of piping and many other uses.

MS. MOSES: Buck, of those that you just listed, which -- or do you know, is the most problem at Hanford?

MR. CAMERON: I would say noise is certainly the most widespread. Asbestos among the materials. We know we have had a very broad exposure. There is almost no usable monitoring data which would tell us what level people were exposed at. But talking to people in how they did the work, how much work they did on this material, we think there were very significant exposures to asbestos.

Beryllium, potentially a very broad-based exposure. We have not done enough beryllium testing, the specific blood test that is used to know how broad-based a problem it is, but we're very concerned about beryllium and we're concerned about asbestos. Asbestos exposure and the effects of asbestos exposure have been looked at by prior studies -- actually, studies might be too good a word. A lot of attorneys have been interested in asbestos and so a lot of screenings have been done, basically, as client searches. We think that we're probably doing a little better and more comprehensive work that has been don't previously, but we know that is a problem.

MS. MOSES: Considering Dr. Takaro's presentation --

MS. STEMBRIDGE: Rachel, can I ask you to hold your questions until Buck gets to the end.

Thanks.

MS. MOSES: I'm sorry.

MR. CAMERON: So, based upon what people tell us they did, and what they did it with, we then assign them to different modules in the medical examination. Let me back up a little bit in how we do the medical interview because I think that is a very critical part of this program.

We use former building trade workers to do the interviews. We have a former plumber/piper fitter who runs our office and does a sensational job. We think this is critical because when former building trades workers come to the office, they're met and talked to by somebody who has literally walked in their shoes, has done the same type of work that they have done from the same era. So there really is a very good acceptance of this program that is enhanced by having those people there.

The way they do the interview, we think is very beneficial and innovative. The interview instrument is on computer, even the prompts, the things that people say to elicit additional information are on the screen, will pop up if a certain response is given. So the person giving the interview enters the responses directly into the database. We don't have to then take a second step and put it into a computerized database. Very little is actually inputted through the keyboard. It's all pull-down menus, sort of point and shoot, to enable the interviewer to focus not on the paper but on the person they are talking, to maintain eye contact.

Before we ever ask the person a question, we take them through a series of maps of the site, of the various locations, the 100 area, the 200 area, et cetera, ask them to go through and recall the buildings that they worked in to help refresh their memories, to trigger memories. And they have the opportunity to discuss this with the staff. You know, to say, well, I used to work in this building where they did animal experimentation, and to help and be guided towards buildings where that was done.

In studies prior to this at Oak Ridge, we found that that greatly increases recall among the participants. So everybody, basically, gets a core exam, which is a fairly superficial, looking at the skin, the basic organ systems, a very general physical examination, which helps us to pick out some obvious health effects.

Our physicians are trained by Dr. Welsh, our medical consultant, for the specific -- study specific findings that we're looking for, but they also look for obvious general health problems. This is not an overall physical. It wouldn't substitute for your annual or tri-annual physical. But we don't want to overlook anything that is obvious and available for finding by the physician. There are specific modules for asbestos involving chest x-rays, spermomity.

All of our x-rays are read by a B reader. That is specific term meaning a physician who has received specific training and testing in reading x-rays for conditions related to asbestos exposure.

Silica is treated pretty much the same way. Beryllium, there is a specific test that looks for the antibodies that are produced when a person has been exposed to beryllium that are believed to be strongly related to later development of berylliosis. Certain things you look for with people who have had solvents exposures and the same with heavy metals, the lead and mercury exposures. But these modules are only done if the history has indicated that there has been exposure and significant enough exposure that could possibly lead to these later conditions.

I know this is probably not readable from where are you. It's just a summary of the different materials that we have concerns about, the asbestos, silica, welding-related exposures, solvents, beryllium, lead, et cetera, and the different activities and the tasks that could lead to these exposures.

What our software does is combine the person's responses where they directly said, "Yes, I worked with beryllium," or, "Yes, I worked with lead," with a separate screen, which asks about tasks and which will automatically associate those tasks with these exposures. We hope this is conservative

meaning that we won't miss exposures. A person having done spray application of fire proofing may not have been exposed to asbestos. We really don't know before the fact whether they were or not. We assume they were.

We sum the percentage of time and the number of times that people say they did these tasks or that they were exposed to these materials to give our nurse practitioner enough information to decide whether they should receive this module or not.

To date we have identified, meaning we have the name and address, telephone number, for 6,000 workers out of that 100,000 total, the 26,000 total we thought we were going to be able to reach. I've had a young man sitting in the records holding area in Richland for 11 months going through boxes of paper records, payroll records, safety records, all kinds of records, actually extracting names, trades, addresses from those records, compiling a list of 10,000 people that there was no other way of getting those names.

We were able to obtain a data tape which gave us 2000 names. Out of that 100,000, many of whom were already deceased, so we had to go one by one to identify these people both through that methodology, by mailings to each of the union groups, both their current members and their former members. Because in the building trades, the construction people, even though they are active working people, are likely to be former workers at the site because of the way building trades people work.

We have actually enrolled, meaning we received a response from about 2200 of those people. Of those, 1,049 did not become members of the study, either because they didn't want to, because they initially said they wanted to, but when they read our information, chose not to participate. They didn't qualify. To qualify, you have to have worked on the site for a minimum of 5,000 hours or believe that you have a health condition related to your work here. So that's a pretty low fence, but we're not trying to recruit people who had very, very small exposures, worked on a site for a couple days and don't believe they have any problem related to the site. And 55 people from enrollment are deceased. That leaves us an available population of 1153 currently contacted.

Of these, characteristic of this population, it's an older population. Average age being about 60, almost all male, which is characteristic of the construction building trades until quite recently. Years at Hanford, about 15 years. So we're getting the people that we were looking for. The middle-aged people who had worked here for a significant amount of time and a significant amount of time in the past, that we would see the conditions that take a number of years to develop.

Most of them believe they were exposed to hazardous materials and about 87 percent believe that their health was impacted by working on the site. So, again, we're getting the population that we wanted to see. Of these, everybody who has come in has qualified for the core examination and smaller percentages for the other modules.

You'll see that beryllium, 76 percent have been assigned to the beryllium module. Even though that is a costly test, we have just not been able to differentiate people based on exposure because of the sensitivity and, really, the poor quality of exposure data. I stand corrected, 64 percent. It's still a large percent.

We've completed interviews on 692 of this population. We've scheduled an additional 73, which leaves about 388 yet to be scheduled in an interview. We have scheduled medical exams on 575, of which 131 have been completed, which really doesn't give us much of a database yet to report, what kind of conditions we're finding.

We're doing about 120 interviews a month, about 30 a week. Average cost per exam, \$475 excluding the lymphocyte proliferation test, the beryllium test. That is about \$362, so, a reasonable cost.

In summary, I think this program, combined with the University of Washington program, is serving the entire spectrum of former workers at the Hanford site. It's a very large population. It's one that is very hard to define and identify. I think in our different ways, we're really solving that problem. Part of the reason that I wanted us to talk to you today is to just expand that outreach so, hopefully, you may be

able to offer us different channels to communicate. We also wanted to ensure that you understood what we're doing, the kind of work that we're doing, because I'm sure each of you have the opportunity to have people ask you about this program, and we wanted you to have that information.

We think it's a very worthwhile program. We think it's long overdue. We do know that we're going to find a lot of previously undetected and treatable conditions. It's being very well accepted by the people who have come in to talk to us and to receive the medical evaluations.

At that, I will stop, and Tim and I will still have a little time to take questions.

MS. STEMBRIDGE: We have about five minutes for questions, which I know is brief, but we will do our best.

MS. JURJI: I want to thank you for your presentation. That was really excellent. I agree, I think it's just so long overdue. I'm just sorry that many of my relatives who worked at Hanford are not part of the study because they're deceased.

But, however, I did -- I think the best thing about the study sounds like you are using peer group encouragement from the union. And I have to tell you, I encountered one of the workers who was interviewed by your group. And he said he wasn't initially -- when he was contacted, he was not initially going to do it, but the union people and his fellow workers encouraged him to do it. So I think that peer encouragement is extremely important.

But he said the thing that really struck him about the study that was so impressive was that they were looking at so many different contaminants and chemicals, and that really impressed him. It's the same thing, you know, just like downwinders are concerned that we are only looking at iodine and only at thyroid disease. He seemed to be just extremely encouraged by all that.

My question, however, is for Tim. At one point you gave a list of all the different, many chemicals that you're checking off or asking about, but you said there is nothing to be done about it, and you kind of dismissed that. And I felt sick when you said that. I can't believe that there aren't some means that you can protect workers against some of those chemicals or something that you could advise them to do; otherwise, why are you collecting this information?

DR. TAKARO: Well, protecting is one thing, and I did mention right off the bat that, of course, removing a worker from exposure is the first thing to do. So that is protecting them. What I meant by there is nothing that we feel that we can do, in terms of a monitoring program, is that for those other substances, while we can recognize that there is an exposure, there is -- and we may be able to demonstrate a physiologic effect, for example, solvent exposure and neurologic damage, damage to the nerves, there is nothing that we can do about that. There is no reversibility. There is no treatment. And our biggest constraint in this project, as you saw, we have hundreds of thousands of workers who we think deserve exams, but we have very limited funds.

And I don't want to get into this much, but I would point out that each of these projects, there are now nine of them around the country, are given exactly the same amount of money, but the number of workers that they are to cover varies from a couple of thousand to our 100s of thousands. So there is no per capita type of approach here. This is -- DOE falls back and says, "Well, this is a pilot. We don't know if it's going to work, so we are going to pilot it all around the country." And there is the rationale for that. But, in fact, they are not meeting the demand of Congress back in 1993, which said not only is this supposed to be for every worker who was exposed to hazards, but it's also supposed to be ongoing medical monitoring.

And we really didn't get into this, but most of the substances that we talk about, beryllium and asbestos in particular, require ongoing x-rays and spirometry and lymphocyte testing to be meaningful.

Yes, cross sectional is important, but it's not everything. Asbestos disease doesn't just pop up one day. It is a gradual process over time. You may take a snapshot today and not see anything, and in two years it's there because you can finally detect it. So there are a lot of problems in the approach. I would say it's based mainly on fiscal constraints in our case. We were not willing to utilize the hazards where we didn't feel we could make a big difference and deny those workers where we thought we could make a big difference because we didn't have enough funds.

MS. STEMBRIDGE: Armondo.

MR. TRENTI: Just to give a little update on beryllium. I'm a present Hanford worker. In the last two years there have been great strides in letting the people know, the employees know about beryllium.

And just recently, I took a physical last year and met with the doctor. It was an-hour-and-a-half consultation, just one-on-one about the effects of beryllium on the individual. People had the option to go take the test if they wanted to or not. And quite a few people are doing that. So there is a great awareness out there, and it's part of our health and safety program out there to educate everyone on berylliosis. So we came a long way. And thanks for the presentation.

DR. TAKARO: I would have also taught the medical contractor in that regard. There has been a big turnaround, part of it directed from headquarters, part of it, I think, because of the former worker findings that CRESO was involved with and all that together has made people realize that, in fact, more communication is necessary. And I'm very glad to hear and recognize that, in fact, things have changed.

MS. STEMBRIDGE: Ricardo.

MR. GARCIA: Very quickly. About two months ago a Hispanic died. He was from Mabton, and the obituary stated that he had worked at Hanford. Do you think that language could be a barrier to locating some of these workers?

MR. CAMERON: Yes. And more so than many of my brothers in the trade who tell me everybody who worked at Hanford spoke English, which may or may not be true. But I don't think every Spanish-speaking person or other nationalities receive this important information in their second language.

I very much appreciated you taking our public service announcement and putting that on your station. And I would really like to talk to you about outreach to the Spanish-speaking community because I don't think that we're doing that well enough. I realize it's a small part of the population of people who worked in the building trades there, but an important part and a part that we don't want to miss.

I would also like to invite anybody who is interested in seeing our outreach and interview operation, to visit our office in Pasco. It's in the Griggs building in Pasco. I would certainly like to arrange a visit with our office manager for anybody who would like to go there.

And also, on a totally different topic, I think it would be very good for anybody who is interested to see how the trades and all the unions are doing training of current employees at the Hammer site. I know Mr. Trenti has offered to set up visits to the training facilities so you can see that. And it's something that, I think, you may want to consider.

MS. STEMBRIDGE: Darrell.

DR. FISHER: Thank you.

Dr. Takaro, I would like clarification on a point that you made earlier. You showed two slides on ionizing radiation, external shallow dose and external deep dose. The first item was missing numbers of workers in percent of total in those two slides. Are those workers who were radiation workers who did not have any recording of exposure on their dosimeter, or are they workers that you are missing data on?

DR. TAKARO: Well, we know they should exist. They should have data by virtue of their name or Hanford ID appearing in the data set. But there is no badge dosimetry data there.

DR. FISHER: Does this mean that their exposures were zero, or does this mean that they had dosimeters that weren't turned in? Would you like to clarify this?

DR. TAKARO: I really can't because I don't know why there are 19,844 workers with no external deep dose. What I can say is, give you reasons that might occur, and these are all reasons that we have documented -- or Steve Wing at the University of North Carolina has documented.

First of all, they definitely did not have zero dose because everybody, of course, has some dose, whether you worked at Hanford or not. Secondly, the way dosimetry has been done over the years has varied considerably since 1942. And for a while there, if you would turn in your badge, say, every couple of weeks and if you didn't have a dose over a certain threshold, it would be called zero.

DR. CEMBER: Oh, no. It was called less than the minimum, not called zero.

DR. TAKARO: Well, it depends on where you take your point of measurement.

DR. CEMBER: I used to get my reports at ORNL and it said less than 10. It never said zero.

DR. TAKARO: When that data was aggregated and reported in a data set like this, it comes out as zero. That is one of the big problems in dosimetry that the threshold and the collection of the badge is extremely important in determining what the dose is, especially when you talk about cumulative dose over work lifetime.

So while these practices have changed -- and if you are a worker today, you get what is called a CEDE, a Cumulative Effective Dose Equivalent. Back in the '40s and '50s and actually up through the '70s, you were more likely to get only this type of dosimetry. And while an individual's report might reflect less than the threshold, the aggregated data, unfortunately, generally shows zero dose in those settings.

DR. FISHER: Again, my question wasn't directly answered. Are these workers who are radiation workers for whom their radiation data are missing or for whom the record may have been less than detectable on the dosimeter they were wearing because there is big difference in concepts?

DR. TAKARO: Right. There is. If they had a reading, then they would be not missing. It would be in this setting. It would be, obviously, a low reading in most cases.

DR. FISHER: So the possibility is that this 19,844, these could be workers who were monitored who had less than detectable gamma exposures on their dosimeters?

DR. TAKARO: Yes.

DR. FISHER: I think that is important.

DR. TAKARO: And there are a number of complete records so our breaks in the history -- if you follow an individual's work history, they will be working in a radiation area but have breaks in their radiation record and there could be any number of reasons why that could be, records are lost, the badge wasn't turned in. It's a myriad of possibilities there.

MS. STEMBRIDGE: All right. I want to move along here. Thank you very much, gentlemen. This is very interesting and helps in some measure move us along toward our goal of doing a better job of assessing where we might be helpful with worker health issues.

We are almost a half an hour behind schedule but before we adjourn for lunch, I do want to offer time for public comment, which we were going to pause for at 11:45.

So I would like to ask if there are any members of the public who would like to offer comment, to please step to the microphone.

PUBLIC COMMENT

MS. OGLESBEE: I had a conference today -- I'm Gai Oglesbee, again, with the Berg plaintiffs. And we came up with following statement because I think there is a lot of misinformation out here. And I'm sorry that Tracy O'Hara left because they need to hear him.

The public is so ill-informed. Too many fail to understand everybody in the United States is affected by various campaigns to diminish liability from radiation exposure perpetrated by the defendant, the USD, Congress, and the Justice Department.

The original Berg plaintiffs are not downwinders. They are upwinders. The wind comes out of the southwest for them. Many of the Berg plaintiffs are upwinders and downwinders. We are individual litigants as Berg plaintiffs. We are not a class-action litigant. We are individuals and status is that way.

The following problem has occurred because of inaccurate and condemning media coverage and too much adverse focus reported by the media and by government oversight agents, which may prejudice any potential jury. A change of venue is likely now, and necessary. That is going to cost us more money and time.

Third-party witnesses could be held in contempt of court for striving to influence the public that the downwinders are not credible. And I saw it happen again yesterday. And Judge McDonald has dismissed In Re Hanford Downwinders because he trashed the constitution by dictating his belief a jury would be too stupid to understand the technical evidence. Yet Judge McDonald uses the bogus phrase "doubling of dose" as he cites his own cumulative dose per person measurements as his prevailing criteria.

And the local media and local politics focus on Gerald Woodcock who pops up in the most unexpected places to admit that he is a mere analyst and not an engineer or a scientist.

Gerald Woodcock publicly categorized women downwinders as displaced housewives with a soap opera mentality. Yet Mr. Woodcock appears to be striving to convince the media and others he can and will influence science.

After yesterday's observation, Mr. Woodcock and others would be well advised regarding who they strive to influence.

Local media should understand that expert science is the only criteria that will prevail in the downwind litigation, which will be based on international as well as in the United States information.

Judge McDonald has sealed the Pigford file, which he promised to release to the public which he hasn't done yet. It's a methodology type expert witness, and it should be released as soon as possible. In Re Hanford expert evidence will help their case a lot.

The HTDS and the new justice department legislation is a new litigants' problem, not the original litigants' problem. Your problem starts when you file your litigation and the law starts then, whatever the laws were at that time. And that it is what we delivered today as a message so you don't get a misunderstanding that is a very serious problem for litigants right now. The influence that I'm hearing is causing a problem for us as far as moving the venue somewhere else, which is going to cost us time and money and that is sad for the ones who are already so ill they can't make it.

MS. STEMBRIDGE: Thank you. Are there any other members of the public who would like to offer comment at this time?

All right. If there are not, we shall adjourn for lunch. Please be back here promptly at 1:30. We will have to try to make up some of this time so we can adjourn as scheduled.

(Noon recess.)

MS. STEMBRIDGE: Del.

DR. BARTH: Thank you. We had a very large group present this morning, in addition to myself, Henry Anderson, Beverley Walker, Louise Kaplan, Larry Jecha, Buck Cameron, Armando Trenti, Herman Cember, Rita Ford, and from ATSDR, Michael Brooks, Sandy Isaacs, and Paul Chorp.

The topics that we discussed included the outline of the Public Health Assessment for the Hanford site combining the 100, 200, and 300 areas, and we had agreed on that outline previously. But we went through it again as an organizing unit for discussion.

Also, previously to the meeting, portions of Section 2, Introduction, and Section 8, Toxicology, had been forwarded to the members of the neo-PHAWG work group. But a couple of people had not received it or had lost it somewhere on top of their desk, so we were unable to give them comments on that at this meeting today. But we agreed that we would comment on it in the future, and no later than three weeks from now, we will provide comments to them on those sections.

We talked considerably about community concerns and how is it possible to make sure that community concerns are adequately represented in these Public Health Assessment documents. We talked about Records of Decision for the Hanford site, whether or not they had been released by EPA, and if so, what they said about the site.

We talked about the possibility of synergism and inhibition when you have more than one pollutant available. We talked about special population groups, including people with certain diseases who may be more sensitive to various environmental stresses, as well as the very young or the very old, the way to treat the HTDS study in these particular Public Health Assessment documents. And the conclusion we came to was it would just be mentioned without going into much detail because there are no significant sources of iodine-131 available now at these various sites.

Public health actions, we talked about what kind of public health actions might possibly be suggested. This is leaping ahead. It is just discussing some things which will have to be considered before ATSDR does recommend any public health actions. And one of the major problems involved there is if, in fact, a standard for a material is not being exceeded and you want to say that you want to control it still more, to get it farther beneath the standard, then you have to be able to say what kind of benefit you expect to get from that additional control. So that is a matter that will have to be addressed in the future.

Review and comment plans for the present and future draft sections were talked about. In the summary of our deliberations, specific suggestions were made for determining community concerns. And the ATSDR people were promised from, Dr. Jecha, copies of health studies which have been completed and which they were not aware of and do not have.

Also it was suggested that they contact organized groups in the various communities such as labor unions and League of Women Voters, is just examples of two. We also felt, and this was approving a recommendation of Paul Charp, that separate discussions are needed for the toxicologic approach for chemicals and for nuclear radiation.

The consensus that we reached, working group members will comment on available portions of Sections 2 and 8 within three weeks. The next draft section to be available prior to our May meeting for review and comment will be Section 5, which has the title Current Pathways and Target Populations, and 7, which has the title Contaminants of Concern.

We talked about the possibility of waiting until the entire document is finished before we would comment on it. And we got the opinion of ATSDR's staff, together with our members, that it would be better if we were to comment on the separate sections as they were produced rather than waiting to the very end when the entire document is available.

So our recommendations to the plenary body are as follows: make draft sections of this Public Health Assessment document together with working group comments available to all members of HHES so that each member may comment as deemed appropriate. Our idea was, we would comment as a working group, and then your comments, together with a draft, would be provided to all HHES members, and they could provide additional comments if they wished. I also believe that we should compliment the ATSDR's staff working on this project for their excellent response to HHES review comments on early drafts. I believe they have done a tremendous job in responding to our very, very lengthy comments on their early draft reports.

Agenda items for next meeting, we plan to discuss ATSDR drafts of Sections 5 and 7 and prepare coordinating working group comments as deemed appropriate. Also at the next meeting, we would recommend which new sections should be drafted next and reach agreement with ATSDR staff on that.

I would be happy to -- well, first, before I open it for questions, are there any comments or additions that anybody who was present would wish to add at this time before we go to questions? Seeing none, are there any questions?

MS. STEMBRIDGE: I have one question for clarification, Del. As I was taking notes during the report, it wasn't clear to me whether the discussion about how to reference HTDS was something that should be a plenary recommendation to the agency or if it was just resolved. I'm thinking that it probably should be something that is a formal recommendation to the agency so that at some point there will be a question no matter how it's worded in the Public Health Assessment about the thyroid disease study.

DR. BARTH: Actually, we didn't address it in that degree of detail, but my thinking on that is that the total plenary group should agree on every section that gets reviewed. The Hanford Thyroid Disease Study will be discussed in one of those sections. It hasn't happened yet. But when it happens, we will comment on whether or not that is an appropriate place to put it, whether that is enough detail, whether they have drawn the correct conclusions or whatever, and that will go to the entire HHES and everybody will have a chance to comment on it. And, finally, everybody needs to sign off on the whole thing and say, yes, go ahead and finalize the document.

MS. STEMBRIDGE: Got it. Thanks, Del, that was helpful.

DR. KAPLAN: In that vein of reviewing, I would just like to comment that those of us who are on that work group receive copies of it and that we invite and welcome everyone else on this committee reviewing it. I have to tell you, since we got done early, I took the document and I went up to my room and I read most of it. The second section we got was the toxicological section. It starts off with principals

of toxicology. And I have to tell you I got lost in that section. I had two big concerns. One was the writing, which I didn't feel was particularly at the level of public understanding. I'm not a toxicologist, so I don't presume to know much about it. But I got lost in it. There were a lot of statements that were made that were not directly referenced. They may have been documentable through documents that were reviewed, but they weren't referenced. I made point after point, this needs a reference, this needs a reference.

So I would really encourage everyone to read this because this is going to be a public document. People need to be able to understand it. And whether or not you have a scientific background is not important. What is important is, do you understand the information it's trying to convey. So I would really encourage as much participation as we can get.

MS. STEMBRIDGE: Other questions or comments?

All right. Is there any discussion about the two action items put forward as pieces of advice for the plenary session?

The first action item is that the neo-PHAWG will submit their comments on the available portions of Sections 2 and 8 to the agency within three weeks. And the second item was that the draft sections, as they become available, and work group comments will then be distributed to the full HHES including the tribal council, as well, for their comment. And that the next -- just by way of information, the next two draft sections, 5 and 7, will be available in the premeeting packet for review and work group comment at the next meeting.

Del.

DR. BARTH: Yes. You have summarized what I said, very well, but I need to comment on what Louise said because she was suggesting a different approach. I think we need to decide which approach is more reasonable. My approach was to not forward everything to the entire group until our comments are available so that they will have the comments of our work group in view when they review the document. But if everybody wants to get the document at the same time we get the document, and that is what I heard Louise say.

MS. STEMBRIDGE: Okay. Let me just see what folks preferences are. I will tell you that -- some of you new members weren't at the table when we went through the rather excruciatingly convoluted process by which we all reviewed three draft public health assessments. Everyone submitted their individual comments which were then laboriously cross-collated by section and reviewed. And then we went through to identify which ones met plenary consensus and which would go forward as individual pieces of advice.

I'm personally in favor of Del's method because it will be useful to me in looking at that section to see what they have already flagged. I think it will save a great deal of duplicative effort and time for all of us.

I see people -- the people who were here for that first round are nodding vigorously.

MS. CAMPBELL: Logistically, are you going to collate all of the groups or is each group member going to send -- within three weeks send their comments to ATSDR?

DR. BARTH: Actually, what we have suggested as a mechanism that everything would be sent to Marilyn, and she then, in turn, would forward it on because one of ladies who was present said her office was right next to Marilyn's and that way the entire group will be kept aware of what is going on. So our comments will go independently on these particular two sections because we want to not wait until the

next meeting to hold them up, so our comments will go independently on these two sections only, which are now available.

MS. CAMPBELL: Then it would be our responsibility once we have all of those comments and the two sections distributed to the rest of the group.

DR. BARTH: Exactly.

MS. CAMPBELL: But at this point it will just be a list of different comments. It will not be a compilation of one set of comments.

DR. BARTH: No, it will not be a compilation. Also it may very well be interlineated comments on the draft as opposed to a clean copy.

MS. CAMPBELL: That is okay. I just want to make sure what it is that we're responsible for getting back out to everyone, so after that three-week time period we can get it back out.

DR. BARTH: Then it can go to the whole group together with our comments.

MS. STEMBRIDGE: The premeeting packet for the next meeting will contain the drafts of Sections 2 and 8 with work group comments for the entire subcommittee and Intertribal Council. For the neo-PHAWG Work Group, they will be getting in advance of the next meeting the draft Sections 5 and 7 to develop their comments on those, so this is a staggered approach.

The one other thing that I heard that I would like to capture as an action item is the accommodation to the staff for their responsiveness because we need to be positive reinforcers when that happens. It is a wonderfully rewarding thing, as a person who has worked in this arena for many years, to see responsive staff and a federal agency as a wonderful thing.

All right. Anything else for the neo-PHAWG?

All right. Then we shall move on to the Outreach Work Group report. Marlene.

MS. NESARY: Cochair Marcia will be reporting.

MS. WOOD: Thank you. I think that first of all I would like to personally thank Marlene for her excellent chairmanship. As a new member, especially, I think that she is coming on very strongly and doing very well, as a personal note.

Our members present besides Marlene and myself included Greg Thomas, Steve Ahrenholz, Jerry Schnell. We had a number there actually, Ricardo Garcia, Linda Keir, Lynne Stembridge, D.J. Jin, Cate McKinney, Dan Carter, Leslie, Jo Marie Tessman, Wilber Slockish, Judith Jurji, Preston Kinne, Travis Kubale, Rachel Moses, and Jean Thompson.

We got a lot of discussion done. I hope I have included everyone. We were talking about -- first of all, we talked some about the HTDS and the presentation about by the media -- misrepresentation, actually, but we can talk about that more later.

We got into the discussion of the Medical Monitoring Program and how best to get this word out to everyone that the Medical Monitoring Program, while it's still in its stage where we're being made aware of funding to come, we talked about whether we would want to get the information out and how to prepare on getting it out when the time was right to everyone that the program is available and it's there as a service provided by the ATSDR.

We also discussed defining getting together, whether to do a newsletter on our own or to add information and submit to the HHIN newsletter. Also Web site inclusion was discussed. Constituencies were discussed, and at that time what we wanted to do was say thank you to Ricardo Garcia for his assistance in preparing the information that went out to everyone and also thanks to everyone who responded back with their information.

And, basically, then Marlene reviewed and had done a great job on preparation of who the constituents were, how the different groups were -- or how the different people that were making information available to others who were doing this, whether they were doing this through -- well, informational meetings to different groups or to schools or just, basically, a number of different ways that they were using to get the information out.

And then I think that was probably most of the information on topics discussed. Of course, in our constituencies we want to discuss as well how -- and we did talk about how those that were being talked to would be contacted, what the best ways to contact them would be.

Then in our summary of deliberations, we talked about how the outreach group wanted clarification on the HTDS. And it was a suggestion that as many of those HHES members that wanted to do so write letters as private individuals to newspapers, letting the public know that the Medical Monitoring Program is alive and will be provided as a public service when the funding becomes available to do so.

The consensus reached would be that the activation and utilization of Web sites would be good to get information out and also newsletter resources are needed as well. But one of our focuses needs to be that we be sure that someone in our group will contact all the tribal representatives and be sure that they are made aware of how the Medical Monitoring Program is going to be made available to people, to the public and ask, of course, for recommendations if they have any on how that could be done.

Now, recommendations to the plenary body would be that an update be done on the HHES fact sheet and that it be brought back as revised to the next meeting when that is held. And, again, that, I think, probably our other recommendation was, again, about the contact to the tribal representatives. That might be a duplication, but it was really felt strongly that we needed to be definitely sure that all the tribal representatives are included and made aware of the Medical Monitoring Program and how we're going to have it provided by the ATSDR as quickly as it is financially feasible.

As far as agenda items for the next meeting, probably the fact sheet update for HHES will be one of the items we will be commenting on and discussing, as well as the newsletter update and some discussion and assignments on what will be included and who will do that.

Thank you. Are there any questions -- or first of all, Marlene, have I left anything out that you can think of?

MS. MOSES: The recommendation that concerned the tribes, I'm not sure how you worded it, but during discussion it pertained to the Medical Monitoring Program and specifically how the agency, meaning ATSDR, is going to work with the tribes on getting them involved in that project.

I've asked that of Bob Spengler yesterday. I put it on the table for whoever to respond to. It's not the tribes that are going to -- I mean, it's not part of our cooperative agreement, the Medical Monitoring Program, so don't confuse these tribes with what the agency is obligated to do with respect to --

MS. NESARY: Right, I'll clarify that.

MS. MOSES: I mean, it's kind of like -- the way you've presented the recommendation, it's as if it's our responsibility, but when I talked about the recommendation, it was specifically to the agency to tell us exactly how they plan on working with these tribes on the Medical Monitoring Program, aside from

telling us that the Spokane Tribe is eligible. That doesn't tell anything to the remaining eight tribes.

MS. NESARY: Right. Okay. Thank you.

So I guess what we're asking for is a plan from the agency about how they are going to work with the tribes in terms of the Medical Monitoring Program. Is that right, Rachel?

MS. MOSES: Yes, it is because they keep saying throughout their language and throughout their presentations that they are working with the tribes, they are consulting the tribes, and we need to know in what manner and exactly how they are going to do this. Simply meeting at these meetings is not fitting the bill.

MS. NESARY: You want the detail of that relationship spelled out?

MS. JURJI: Also to clarify something that Marcia said that happened, in the meeting regarding sending out the newsletter, telling people that the Medical Monitoring Program is still alive. I believe, Marsha, you didn't quite say what happened in the sense that there was a consensus that because of the Hanford Thyroid Disease Study results, people are panicked and are just going to assume the Medical Monitoring Program is dead. That's why, before the project gets its funding, it was thought that a general consensus was that people need to hear the program is still alive even though it isn't quite funded yet.

MS. NESARY: Thank you. I will include that.

MS. CAMPBELL: One other thing that did occur at the meeting while I was there was the presentation by Cate McKinney related to methods of outreach for the Public Health Assessments and a package of information was provided to the work group for the work group's comments. And, I believe, it was agreed that there would be more discussion about that at the next meeting. That was another agenda item for the next meeting.

MS. NESARY: Also an attempt to schedule so they don't mutually exclude each other, the Public Assessment Study Group and the Outreach Group, so we have some dialogue between those two focuses and can coordinate.

MS. CAMPBELL: And an action that I believe ASTDR was given -- I just want to clarify -- was to come back with some further information on Web site development for all four of the health effects subcommittees, that it is an ongoing project on Web site development that is being discussed, and we were going to see where that was.

MS. NESARY: Then there was also an important point brought up by Dan Carter to suggest that not everyone has a Web capability who might have some interest and have a stake in these studies and monitoring programs, to be sure that we provide alternate means besides the way of don't put all our efforts in that basket, hit different media, to hit different audiences.

MS. STEMBRIDGE: I think there was also some discussion about a revision of the Medical Monitoring Program fact sheet that we all got with a draft document so that it focused less on the thyroid disease study and more on the reasons why this service was still important and necessary and how it would be beneficial to people, so that draft document will be coming back for review as well.

MS. MOSES: It was the first two bullets on here that we really talked about. I don't think that you mentioned it. We spent, I thought, 30, 40 minutes talking about that alone.

MS. NESARY: We spent the bulk of our time going over the outreach efforts associated with the medical monitoring program and where to put them and what form they should take and what media they should use and related issues.

MS. STEMBRIDGE: Herman.

DR. CEMBER: I just wanted to go back to the announcement of the Medical Monitoring Program. I saw in today's paper that, in fact, the headlines said it would continue, although at a diminished funding, but that it would definitely continue.

MS. NESARY: Yes, we discussed that in there in the meeting, and what we discussed was that the way the media had presented it was, in effect, not quite the way we would have preferred to have it discussed because it made it sound misleading, we felt -- I think that would be the word -- and might make people feel that, well, you know, just another program, and it's dead already, and so this is why the emphasis.

DR. CEMBER: It was quite explicit that it was still alive, but at a reduced funding level.

MS. WOOD: Yeah, but that hadn't really been said.

MS. JURJI: I think the concern was not that it was alive because they did, and I was grateful for that actually. I didn't think the article was as bad as I expected once I read it.

But I think the concern was it looks like this HHES and the ATSDR is endorsing HTDS, that is, we're accepting everything about the study and therefore we've doing this reduction in the medical monitoring when, in fact, most of the medical monitoring revisions have to do with the Institute of Medicine report recommendations, not really the thyroid study.

MS. NESARY: One of the other major concerns, too, was that the money is not exactly in hand yet, so any outreach or announcement efforts made now or in the near future should, you know, recognize the fact that the cash is not yet in hand.

MS. STEMBRIDGE: Any other questions or comments?
Darrell.

DR. FISHER: Thank you. Being new to this committee, I would like to know if someone could help me understand what the process is for having the study funded by the Department of Energy. Who are the decision makers? What are the factors that go into this that enables the Department of Energy to make funding available for the Medical Monitoring Program?

MS. STEMBRIDGE: I will give you the quick thumbnail sketch, although over the course of last year, it has been an extraordinarily torturous one. And I will try to do this very briefly. The statutory authority is Superfund under CERCLA which gives ASTDR the authority to make these evaluations that such a medical monitoring program is feasible -- warranted, feasible, and applicable.

And they have a series of internal criteria questions which were worked through over the course

of a couple of years with assistance of this subcommittee. The protocol was developed. Dr. David Satcher signed off on that as, this is a good thing, we're going to go forward with it. ATSDR had been having conversations with DOE headquarters that this program was coming down the road, and somehow when the rubber hit the road, the money wasn't there. And the course of the last year has been trying to figure out whether the money comes from headquarters, whether the money comes from the site, whether it comes from environmental management, whether it comes from the Environmental Safety and Health side of the Department of Energy. There has been some Congressional mulling in the midst of this and the bottom line is we're still awaiting the funding.

DR. FISHER: Now, the DOE funding is based on Congressional deliberations, and the DOE funding is then set by Congress. Is this an appropriation issue?

MS. STEMBRIDGE: I will defer to Greg.

MR. THOMAS: As Lynne pointed out, Darrell, ATSDR has authorities under the Superfund law, and those authorities say that we have to negotiate with the Department of Energy for resources to carry out those activities. So it's an annual exercise of going to the Department of Energy with a list of activities we're authorized to do and negotiating with them for the resources to make those things happen.

DOE, I believe, then has to put those things into their budget, and I believe that -- I don't know if their budget is specific enough that it sets ATSDR, but, I think they have a line item in their budget for public health activities that I would think might include ATSDR and CDC's activities, and there might be some breakdown within that. But I don't if -- I don't have the details on exactly how DOE's budget is set, but we negotiate with the Department of Energy, currently with the Environmental Health and Safety side, for our resources.

DR. FISHER: That was not exactly my question. My question had more to do with once the Department of Energy receives this recommendation and you go through your negotiations, who makes the decision, what is the turn-on mechanism at the Department of Energy? Maybe there is no one who knows that here.

MR. THOMAS: Well, I can tell you that currently the Department of Energy has received the funding for medical monitoring. It was in their appropriation this year. They simply haven't released those funds to us at this point. So currently, it is not an appropriations issue. It is simply getting the Environmental Health and Safety side to release those funds to us. There are some complicated discussions going on to make that happen.

MS. STEMBRIDGE: Anything else on the outreach group's report?

One other thing to add to the list -- and you probably said it, and I just didn't get to writing it down. There was a request of Leslie to determine what agency resources might be available to support an HHES newsletter and/or an HHES annual report summarizing our work and deliberations.

MS. CAMPBELL: I captured that as a newsletter or update for the agenda for the next time, but the annual report was the other piece that we were talking about.

MS. MOSES: The Hanford Advisory Board does one and maybe that could be something they can look at, in terms of format and structure and content.

MS. NESARY: One last little reminder. Greg had asked to make sure that we don't schedule the two, Public Health Assessment Work Group and outreach, at the same time so that people can't go back and forth and contribute to both aspects of that project.

MS. STEMBRIDGE: Got it.

MS. STEMBRIDGE: Anything else on outreach? All right. Then we will move ahead to the Studies Work Group report. Louise.

DR. KAPLAN: We had as our first topic of discussion the Infant and Fetal Death Study that is currently being conducted by ATSDR. The study is in the analysis phase, and it is anticipated that within the next two to three months the report will have a draft version. And we discussed two components of how to proceed from there.

The first component being the issue of reviewers. The original reviewers for the study protocol were John Newhouse, from the University of California; Lowell Sever, who is now at the University of Texas, who has been involved with Hanford-related studies and, in particular, one related to congenital anomalies. And he presented in December the study on leukemia and preconception exposure to radiation.

Sarah Kate, who is a physician in Yakima, who worked with Jim Ruttenber as a medical student doing some epidemiology and has a special interest in Hanford issues and has done a vital statistics review of infant and fetal deaths in the Hanford area. And then the fourth reviewer was Clark Keith, who is an epidemiologist in Atlanta with the American Cancer Society.

So we came to consensus that we would invite the original four reviewers of the protocol to served reviewers of the draft document and that we would propose adding Robert Brent to the review panel, who was person suggested by Herman Cember, as this person has a specialty area in teratology. So our first recommendation to the plenary body would be to have those five people serve as reviewers.

Then, in addition, we discussed the process of how to have the involvement of HHES prior to release of this to the public at large. And what we are proposing to the plenary body is that after the external reviewers have returned comments to ATSDR that we would then be sent the draft document with their comments, and that would be to any interested members, so if you choose not to be involved, that would be fine, but if you would like to be involved, this is opened beyond the Studies Work Group. And then we would return our comments as HHES members to ATSDR. And part of this is when we receive the draft document and the reviewers' comments, we would also see changes that ATSDR made in response to the reviewers. And this process occurred with the protocol itself. And what we saw was the set of comments, and then ATSDR's response was specifically delineated in how they made specific changes in response to those.

Then our comments would go back to ATSDR for consideration. And then when the document is complete and ATSDR is planning to present this to the public, there would be a release process which we felt we could discuss further at the next meeting in May. One of the things that it would be hopeful to dovetail with is: Should this happen in a timely fashion? And, can we meet all of our deadlines? It may be possible that this could be released in July at our HHES meeting in Spokane, which I think would really be a good opportunity for us to have this presented. A lot of this will depend on when the analysis is done, when the reviewers get comments back, when we get comments back, et cetera. But we can make this final decision in May or at least a final proposal in May.

Do you want to take that recommendation for reviewers now? That might be easiest now.

MS. STEMBRIDGE: So I have two recommendation about this. One is to add this additional name to the reviewer panel, the other is a process recommendation, which is, then, after the reviewers take a look at this, that we would get the draft study results, plus the reviewers' comments, plus ATSDR's response to the reviewers and anyone on subcommittee would receive that and then make comments come back to ATSDR for preparation of the final study report. Discussion? Agreement? It sounds like a pretty straightforward way to proceed on this.

MS. NESARY: Maybe this is the wrong time to -- you've already had your study, but I was thinking about the names and categories of reviewers that you were listing and wondering if this might not be the time and place to suggest that peer review panels be opened up to include other kinds of experts, social scientists of various types, especially if the study has the potential for being controversial in some of the same ways that the HTDS study is where the results can have an impact on downwinders' lives.

DR. KAPLAN: These panels are open to any type of individual, so if there is someone whom you feel would be --

MS. NESARY: I don't have anybody in mind. I'm just wondering as sort of -- as a concept, could health studies at this stage be open to include peer review by other kinds of social science experts?

DR. KAPLAN: These are open. These four reviewers were originally proposed by this committee as well. So it is open.

MS. NESARY: So if I have a name, it is up to me to pitch it?

DR. KAPLAN: It is, yes. For future purposes, it is up to you to pitch it.

MS. STEMBRIDGE: The other piece of what you're suggesting, Marlene, is that this subcommittee, in sort of a gray area between this more formal peer review panel and the drafting of the final study, will have an opportunity to look at this and provide our individual comments as well. So in a sense, all of us fall into that more social -- many of us in that more social perspective, although there are certainly some very strong technical experts on this subcommittee as well.

DR. KAPLAN: The second topic that we discussed was the need for reviewers for two studies that are in the development of protocols for NIOSH. And the first is the Lung Cancer Case Control Study, which Travis Kubale mentioned yesterday. And the second is the Construction Workers Mortality Study. And the Studies Work Group made two recommendations for the Lung Cancer Case Control Study. One is Glyn Caldwell, who got volunteered without being present, and the other is -- Herman will need to help me, it's Lou Beliczky.

DR. CEMBER: Chief industrial hygienist for the United Rubber Workers Union or whatever it's called in Akron, Ohio.

DR. KAPLAN: So those were two recommendations that we are proposing to the plenary body. Then for the construction worker study, which is a Hanford worker study -- without Buck being present, we nominated Buck Cameron. And the other person was recommended was Peter Brysse from Seattle, Washington, who is retired from the University of Washington School of Public Health. And so those are the recommendations.

Now, one thing that is not a formal recommendation, you may chose to do that, but when NIOSH explained the process to us of how the protocols are reviewed, in certain instances there is a public meeting in which the reviewers come together and the public is welcome to attend and the protocol is discussed. And they said that this usually happens in Cincinnati. I asked if it would be possible to do that here, and they said for a multisite study such as the Cancer Case Control Study that would be challenging because it would then involve multiple sites. But for the construction worker study, that was certainly a strong possibility because that would only involve Hanford. I encourage the agency to consider the public relations benefit of doing that here as opposed to doing that in Cincinnati where interested people may not be able to attend. So you have before you four names of reviewers for two different studies.

MS. STEMBRIDGE: For a study protocol; correct?

DR. KAPLAN: For protocols; right.

MR. CAMERON: I would strongly support having the review process for the Hanford study here. I think that would be very beneficial for communicating the purpose of the study and the results of the study. For peer reviewers, I think Pete would be a fine peer reviewer. If Pete is not available, I would suggest either John Dement or Hester Lipscomb from Duke University, both who have done extensive research on health outcomes and injury outcomes among construction workers.

DR. KAPLAN: I would take that as a friendly amendment.

MS. STEMBRIDGE: I need the names one more time.

DR. CAMERON: Hester Lipscomb or John Dement.

MS. STEMBRIDGE: All right. We have a slightly longer list of suggested protocol reviewers. And what I hear as a subrecommendation here is that the review meeting for the construction worker mortality study protocol be held here locally in the Tri-Cities. Any objections to those pieces of advice? All right. We will move on.

DR. KAPLAN: The third topic of discussion was the Hanford Thyroid Disease Study. There was some continuation of the discussion of problems and issues that have arisen in consideration of this. The members of CDC present were very clear that it was a draft final report even though they erred in not having that noted on the summary document that you-all received.

I want to mention particularly -- and I thank Darrell Fisher for raising the issue of the fact that the group of us who raised criticisms about the HTDS neglected to make comments on some of the positive aspects of this study. I feel that, perhaps, I was too involved in this yesterday to come forward with that. But one of the people present yesterday, who is an attorney for a group of litigants, said that he actually read the complete study twice now and felt that were a tremendous number of strong components and really good things about the study.

In particular, I would say that the data collection for this study was done in an outstanding way. No one can at all criticize the methods in which people were evaluated for this study.

So I think it will behoove us as we get the document and have a chance to review this more fully to consider strongly pointing out the things that are good about this study and how it can be a model for other studies of this nature.

In trying to come to some proposal for dealing with what is before us, in terms of the concerns and

the public response to the Hanford Thyroid Disease Study, the proposal that we are bringing to you as a plenary body is that the Hanford Health Effects Subcommittee issue a press release to notify the public of our concerns and to clearly note that the Hanford Thyroid Disease Study is still in progress with public comment until July 1st and that final consideration of this study will be made after the CDC responds to comments.

What I do want to note is that we did not come up with -- no one raised it yesterday -- and it occurred to me that nobody raised it yesterday, that we as a group submit comments to HTDS. I raise that because it may be, once everyone has had a chance to individually review it, that we might want to consider coming to some consensus about the comments. I can clearly make that Studies Work Group agenda item for the next meeting so people would have an opportunity to review the study and make individual comments and then, perhaps, come together and we could consider whether or not we as a group would like to make some specific recommendations to CDC.

MS. STEMBRIDGE: Louise -- I may be wishfully thinking this into the words that you just said, but what I hear you recommending is a process whereby the members of this subcommittee would receive the full study. But, perhaps as quickly as the end of first of April, and submit to the Studies Work Group their comments and then you, in that work group in May, would pull them into what would be the plenary suggested comments for recommendation and consideration.

DR. KAPLAN: If that were the pleasure of the plenary body, I think that is a role that we could fill. I have to say that if I get documents that are 10 pages long with comments, I don't know if that is going to be feasible. I think that people might make suggestions about -- separate and apart from line-by-line comments about overreaching themes or overreaching issues that need to be addressed.

MS. STEMBRIDGE: So it's the outstanding questions, the unanswered issues that you would be seeking people's comments?

DR. KAPLAN: But I'm leaving -- this is something that just occurred to me. So what we have before you is a recommendation for press release from HHES. And a personal query that I, as chairperson, am making to the plenary body as a whole, as to whether or not this group would like to do a set of recommendations from the HHES.

MS. STEMBRIDGE: I'm going to take cards, but I want to say that I think before we, as HHES, can issue a press release, we need to have a much more -- we all need to get a look at this document and have a much broader discussion about what it is we want to say within a press release, because that, in and of itself, could consume the better part of an afternoon. So I'm interested in sort of setting aside a decision about the press release until after we all had a chance to look at the document and see if there is, in fact, something by way of consensus that we can say. So I would like to focus on the process if we could.

Rachel and then Darrell.

MS. MOSES: Is there a method or a way that has already been decided how we are going to get copies of this study or is that an issue that we have to discuss, or is it presumed that we will get separate individual copies?

MS. STEMBRIDGE: I thought I heard Mike volunteer to get us all the study yesterday.

MR. DONNELLY: I have a list of people who requested the study, and I will send a copy of the

study to those people who are on the list.

MS. STEMBRIDGE: Will you please put my name on the list. I never saw it go around.

MS. MOSES: I would encourage people to write your own separate letters. If you wait to get a letter through this group it might take you two meetings, maybe six months down the road. Believe me, they are letter counting. I can't downplay this issue, they are letter counting.

So I would encourage you to encourage whoever has some problems with this HTDS study to really write letters and go beyond, you know, sending them to CDC, go and send them to the senators and congressmen who are really going to make an impression on this thing.

Did I hear you say, Louise, that this study could be used for a model for future studies?

DR. KAPLAN: I said that the data collection in the way they evaluated people for thyroid disease could be considered a model. It was a highly sophisticated evaluation.

MS. MOSES: I think those kinds of things could be captured with your personal statements reflecting that. I don't really think I would want to go on record saying that could be used as a model study in any way, shape, or form.

MS. STEMBRIDGE: Darrell.

DR. FISHER: Thank you, Lynne.

The concerns and comments that I heard from Leslie and from Judy were pretty strong and valid, I thought. Their concerns about the Hanford Thyroid Study -- I meant Louise, I'm sorry. I'm still learning the names. And my understanding was that these comments were intended to be comments on the scientific aspects of the study, the methodology and the dosimetry, the analysis, the epidemiology.

We can have both a public or political review as well as a scientific review, but for the benefit of those who are responsible for preparing the final draft, I think there needs to be a good set of comments coming from this group. I'm just wondering if it wouldn't be more effective to delegate some of that responsibility to those who have already analyzed it thoroughly and not expect every member of the committee to do the same thing. I'm wondering if that isn't a more efficient and effective process? In other words, by way of assignment.

DR. KAPLAN: In response to Rachel's comment, I am not saying in any way, shape, or form that individuals should not respond to this study. I have already written a set of comments. I encourage every individual to do that. This is at the pleasure of the committee. If people felt that they wanted to designate certain people to do a review, that would be fine. I think the overriding premise of this committee is that anyone who wants to participate ought to be able to participate.

I think, clearly, it goes back to Marlene's comment that there are aspects of this that are clearly scientific, but there are aspects that may have social implications. I think the review from a nonscientific perspective on how issues are presented or discussed can be very informed from a nonscientific person's perspective. So I would encourage a broader view than people who have clear credentials in specific areas that relate to the epidemiology of this study. Again, this is at the pleasure of the committee. And it may be that the committee may choose not to do summary comments.

DR. BARTH: The 64-dollar question on this whole study revolves around the uncertainty and the doses, the power of testing, the hypothesis which was the whole objective of the study, which is related to

the uncertainty of the doses, and then based on that the interpretation of the findings of the study. That is the 64-dollar question. I think that is what everybody is concerned about.

And when Louise was talking about it being a model study, it was a model study in terms of the care in which they collected the data, but I don't think it was a model study in terms of the care which they analyzed the data and drew conclusions therefrom.

MS. STEMBRIDGE: Okay.

MS. KEIR: We always have to remember that it's not the principal of the thing, it's the money. This actually isn't a criticism because I don't know about the cost of conducting health studies to know what is an economically justifiable study and what isn't. But I did a little rough arithmetic to figure out, per person, the amount of money and the amount of time per each person in the study. I will stand to be advised by Del or Louise or Darrell or, I think, Dr. Anderson and Dr. Jecha have had some experience with the cost of public health.

DR. JECHA: I'm not knowledgeable on the cost of public health studies.

MS. KEIR: Anyway, I'm ready to seek guidance on this because I honestly don't know what constitutes an economically feasible figure. But just doing very rough figures, it works out to \$6,000 per person in a full eight-hour workday. So I'm wondering, is that a reasonable -- help. I don't know. Do we have any way that we can get a handle on this?

MS. STEMBRIDGE: Linda, I wanted --

MS. KEIR: If it's not possible to do, that is okay. I'm wondering because we've raised the issue of the quality of the study. And the fact that there are social implication to the study, and we cannot leave out the economic implications. We can't ignore the taxpayers, and we can't ignore that this money has been spent, in this and other studies and on this group, and not one dime has gone to help downwinders so far. This needs to be on the record. So if there is no answers to these questions, that is okay too.

The second thing I want to make sure that we have time for at some point is that Mike Donnelly has promised to come forward with figures for both the noncompetitive and the competitive RFP bids responded to by Radiological Assessment Corporation where John Till took off his TSP HEDR hat and very quickly put on his private enterprise hat. I bring this up now simply because I heard Del talk about the basis of this being the HEDR data.

MS. STEMBRIDGE: Folks, I want to draw us back to the question before the group which is, first of all, do we want to try to put together HHES comments on the thyroid disease study?

DR. KAPLAN: Actually, the original question was: Should we have a press release?

MS. JURJI: I've had my card up here forever and want to address those actually.

MS. STEMBRIDGE: All right. I'm concerned that we are badly behind schedule. And what I hear us drifting to again is the discussion of the thyroid disease study. We don't have the time, and I don't think that we have materials -- I don't know how many of us have seen the full study. I suspect not many. What I'm trying to do is keep us focused on identifying what we want to do and how we want to do it and figuring out that timeline so we can move on down the agenda.

MS. JURJI: You will be very happy because that is what I am addressing here. I haven't lost sight of that at all. I just wanted to remind people that when I give my report for the PHAWG group that we also came up with kind of a consensus recommendation that there needed to be a response from this committee regarding the thyroid study to CDC.

It would fit very nicely, in my mind, to have a work group under Louise sort of solicit or collect all those comments and concerns, a letter to whomever is relevant. We also talked about sending a letter to NAS, and I'll get to that later.

I have to say I kind of disagree a little bit with you, Lynne, about the press release. I felt the press release should go out really soon because it doesn't have to get into the details of what we're concerned about so much with the thyroid study, as the thyroid study. It's more to remind people that it's a draft, that it's still being looked at, that we're still looking at it, that it's really being analyzed, that we're going to do it, that other people are going to do it. That is something that needs to go out now because I think that people are just wanting to hear that this story is not over. I don't know how we do press releases from this group. I know they have gone through ATSDR, I think, in the past.

MS. STEMBRIDGE: We have never done a press release from this group.

MS. JURJI: Maybe it's time to start.

MS. STEMBRIDGE: The other way around this may be a recommendation that CDC needs to issue a press release that says, "Despite what you may have heard in the media, this is very much a draft document, and it is under review."

MS. NESARY: I like that.

DR. KAPLAN: I would take that as a friendly amendment.

MS. NESARY: Recommendation of the board to CDC action item, time limit?

DR. KAPLAN: As soon as possible. I will take that as a friendly amendment too.

MS. STEMBRIDGE: All right. Is there anyone who is not comfortable with that recommendation? Okay. Well, that chicken has gone home to roost. Now, moving on to Linda.

MS. KEIR: I apologize if I asked the two questions which I thought were sufficiently related. When on the agenda may we address those issues because I've already had people ask me those questions?

MS. STEMBRIDGE: I guess what is not clear in my mind, Linda, is, I know you asked that question of Mike on the prebriefing conference calling, but in my mind that was a question from you to Mike. That was not a question from the subcommittee, and I am -- I mean no disrespect, but I'm reluctant to devote plenary time to the resolution of a private question.

DR. KAPLAN: To me it isn't a private question because we have been asked by downwinders that question; also the questions about what is feasible per subjects in, for example, the HTDS study. The money is an issue with both the taxpayers and downwinders, they are taxpayers, too, but there are taxpayers who are not sympathetic to these issues, and they do confront us with these questions and at some point I would like to get these answers to the plenary so everybody can hear it. Next time is fine if

we can have it on the agenda for your next --

MS. STEMBRIDGE: You know, what I will do is, I will just put it on this list and at the end of this meeting as we come through and have a discussion about what folks want to have on the next meeting agenda we can plug it in there and we can thrash it out there. I will put the money thing.

DR. KAPLAN: One last comment, which is, we had a brief update of about two sentences on the fact that the Hanford Environmental Dose Reconstruction Project is still continuing and that work is still underway in both the river pathway and the particle problem. And so as that work progresses, we will have updates in the future.

MS. STEMBRIDGE: Now, back to --

DR. KAPLAN: I'm sorry, I apologize. We didn't come to consensus on the other issue.

MS. STEMBRIDGE: All right. I will see if we have consensus on this, that everyone who wants a copy of the full study will give their name to Mike Donnelly. Mike Donnelly will get you the copy of the full study. Is it middle of March, 1st of April? I know this is quite a beast. Next meeting is too late.

MR. DONNELLY: I think it's probably -- we have to get them printed, so however long that takes. I think probably mid-March is what we're looking at.

DR. CEMBER: How thick is that report?

MR. DONNELLY: It's about that thick.

MS. CAMPBELL: If you signed the list yesterday that was being passed around or wanting a copy of the study then you don't have to see Mike again, he has that list.

MR. DONNELLY: I think it would be easier just to send a copy to everybody on this committee. We may have everybody on the list anyway. That may be the easiest thing to do rather than miss somebody and say, "Why didn't I get a copy of it?"

MS. STEMBRIDGE: But everyone who wishes to submit comments, questions, unresolved issues with HTDS will submit that text, come to the next meeting with that in writing to give to the Studies Work Group, and the Studies Work Group will tease out the common themes from those comments and bring them back to us for plenary consideration.

DR. KAPLAN: Could I ask one thing. It is not clear to me whether or not I am able to make the next meeting. If people are interested in a timely effort -- because I don't think it would be possible to take these comments and do them overnight. If I can get to the next meeting, it won't be until Thursday afternoon. If people would like to send me their comments in advance, I can try to do some synthesis of them in advance. If I can't be there, I could send my comments to Del, who I would nominate to chair the group in my absence and have something for people to respond to because, otherwise, we won't have an opportunity as a group to review the synthesized comments. And since this needs to be in to CDC by July 1st, we need to do this at the May meeting. So if you can get me your comments by May 1st, that would be great. Perhaps in the premeeting packet there could be a reminder to that effect.

MS. STEMBRIDGE: Is everybody clear on what it is, the process that we are proposing to undertake for developing these comments, or do I need to repeat it one more time so it's clear? All right. Is there any disagreement with us undertaking this process? All right. Roll up your sleeves, we will have work to do.

MS. NESARY: Press release instantly on the draft nature?

MS. STEMBRIDGE: We would give them our advice and they respond. If they don't, then they sort of have to explain why.

Anything further from the Studies Work Group? All right. Let us move on, then, to Public Health Activities Work Group. Judy -- Mike.

MR. DONNELLY: I made a suggestion a second ago about sending this to everybody and the thought just occurred to me there may be people who don't want a 600-page document. So I don't know whether to go back to let's just go with folks on the list or send it to everybody. It's your choice.

MS. STEMBRIDGE: I think folks on the list is the most prudent use of resources, use of trees and postage and people's time.

MS. CAMPBELL: You don't have to worry about your address, because we have all that.

MS. JURJI: I was filling in for Jude Van Buren, who is the chair of our work group, the Public Health Activities Work Group. So I'm going to need help from other people who were there to be sure that I caught everything that happened pretty much.

Members present were a mixture of new and old members. We had Henry Anderson, myself, Marlene Nesary, Beverley Walker, Larry Jecha, Laura Chenet-Leonard, and Dan Carter, and other people there was Greg Thomas, Jerry Schnell, Sherry Dunn of HHIN, Cynthia Harris of HHIN, Ellen Haars. And, of course, the key missing people I just need to mention is very important, people who have been following this process right from the beginning. So this is the first time we've really missed some key people and that is Jude Van Buren, Glyn Caldwell, and Trisha Pritikin.

Most of the topics discussed had to do with the revised Medical Monitoring Plan in light of the Institute of Medicine's recommendations. So there was an awful lot of talk about that. We also spent a little time on the questions, issues, concerns regarding the thyroid study, HTDS. We also talked a little bit about the NAS Peer Review Committee.

And we also discussed the fact that Owen Hoffman was going to come to give a presentation and that he missed this meeting, and we're hoping to hear from him in a future meeting, and that will be one of our recommendations. So those were the three issues: the medical monitoring, the HTDS, and the Owen Hoffman presentation.

In general, we kind of came to a consensus that HHES endorse the ATSDR revised Medical Monitoring Plan, but there were many outstanding concerns such as reduced outreach, budget, elimination of ultrasound, lack of rescreening the exposed population. So we want to still address these, but after much discussion, it was concluded that maybe the best place to address these issues were when the contractor, the chosen contractor establishes workshops on clinical policy, outreach, education, and program evaluation. And that may be a good chance to get the input that we need that gets into that kind of level of detail.

There were many new people who weren't very familiar with the Medical Monitoring Plan and so we spent a certain amount of time answering questions and concerns from those people. And I encourage

all the new people on this committee to try to -- if you haven't gotten in your packets a copy of the Medical Monitoring Plan, I hope you do get such a thing and can read it so you're knowledgeable about what this is because this is one of the major big pieces of work that we have accomplished in the last four years.

There was also a lot of -- regarding medical monitoring, there were issues that came up having to do, for example, the importance of keeping administrative costs down, the importance of choosing a contractor downwinders will trust, giving eligible people a choice of which providers will do screening. We may want to have local screeners here, but we want to also be sure that they have a choice to go elsewhere if they want, just that flexibility if people need it.

Then we also were concerned about the risk communication element and that that include world-wide information and data in the risk communication. So those were things that we have concerns, but we still ultimately are going to recommend that HHES endorse the revised Medical Monitoring Plan, and I will state that in a minute. Well, in fact, we came up with four recommendations. Number one, we recommend that HHES endorse the revised Medical Monitoring Plan with the understanding that HHES will have input when the contractor establishes its clinical policy and outreach and education workshops. So that is one.

Do you want to take these one at a time? There are four recommendations.

MS. STEMBRIDGE: I think its much easier to deal with them one by one. Discussion about this? Linda's card and then Louise -- oh, that was fast. Louise.

DR. KAPLAN: I would like to make a friendly amendment to this recommendation, which is to more strongly specify that rather than just HHES having input that there be HHES representation in this policy group so that we would ensure that there be would representation from this committee in that policy decision group.

MS. JURJI: Actually, that was talked about, and I think I may have missed that because that was brought up. So it would read, "We recommend that HHES endorse the revised Medical Monitoring Plan with the understanding that HHES will have representation as well as input when the contractor establishes its clinical policy and outreach and education workshops."

DR. BARTH: I'm not sure that you would be able to accomplish that because once the RFP goes out, the principal scientists loses control, and what you have determining who gets the bid is an administrator who looks at the best qualified, lowest cost bid. And you have to spell out exactly what is expected to be done in that and when you start making modifications after the fact, they come back and charge you tremendous amounts of money for any modification. So I don't want to speak for ATSDR, but in my memory of my former government work was, I lost control once it went to the administrators.

MS. STEMBRIDGE: Greg, do you have something to add on this?

MR. THOMAS: The RFP has gone out. We have gotten proposals in. Since we haven't awarded the contract yet, essentially, we haven't made our selection yet. So there is still room for us to consider who we would select as the contractor and take your concerns into consideration.

I think because we've also had some discussions internally that the length of time between when those proposals came in and now or whenever a selection would be made, we are probably going to have to go back to the bidders and ask them to reconfirm or update their proposals or give them an opportunity to, I guess, rework their proposal to us before a final decision is made. So I think there is still some room within the agency to address the committee's concerns.

MR. CAMERON: I would like to ask if this work is going to be done as a contract or as a cooperative agreement.

MR. THOMAS: Contract.

DR. JECHA: I know I'm new. This has already been voted on, and I'm outvoted, but I have a dissenting vote. I'm not sold on medical monitoring as a cost effective method. I don't think medically or scientifically it holds merit. I kind of agree with the IOM people. But if you're going to do this for a social benefit, that is another thing, and then I think you ought to get your money's worth and do some screening that will do the best for the population served.

MS. STEMBRIDGE: Any other comment on this? Then with Larry's dissenting voice, we have the endorsement of the revised Medical Monitoring Plan with the representation -- the whole long thing. Okay, next.

MS. JURJI: We also recommended that the HHES ask ATSDR to establish the advisory board for the Medical Monitoring Program as soon as possible so this group can have input before the plan is cast in concrete. You know, advisory boards like to be brought in early enough to really have an effect. So we felt very strongly that this advisory board needs to get going as soon as possible. I don't know if Greg wants to comment on that.

MR. THOMAS: I think it's a perfectly appropriate recommendation. And we've had discussions about starting to consider who should be on that advisory board. I think it's an appropriate recommendation to make to us at this time, as well as any suggestions you might have about who might be a member of that group. I think you all got copies of the summary decision document, and if you look there under the advisory board, I think it lists different sorts of expertise or different categories of representation that we would like to include in that, so you might use that as a guideline if you want to make any specific recommendations to us.

MS. JURJI: We've actually have already gone through this process of determining which categories of expertise and even nominated names but that doesn't mean it's finished yet. So people should look at that piece of information and if they have additional names that they feel are relevant, that would be a good thing to do. But at this point the recommendation has specifically to do with just get going on that.

DR. CEMBER: It's not clear to me whom we're advising and what kind of advice we're going to be dispensing. It sounds as if we will be advising physicians how to do physical exams. That is not what you meant, is it?

MS. JURJI: No.

DR. CEMBER: That is what it sounded like.

MS. JURJI: I think the advisory -- again, Greg can help me out -- but I think the advisory board will be advising both the ATSDR and I imagine the contractor about issues of all sorts really, implementation and outreach.

MR. THOMAS: This advisory board will be advising the contractor. I don't think -- they can't advise ATSDR directly without being like this group charter, but they will be providing recommendations to the contractor on clinical outreach policy decisions that need to be implemented. It's going to be kind of a three-way discussion. We will certainly be involved in the advice and recommendations that they provide. ATSDR will actually be represented on that contractor advisory board.

DR. CEMBER: We're not going to be advising physicians how to conduct physical examinations, are we?

MR. THOMAS: No, that group will be evaluating the overall performance of the medical monitoring program. And there will be clinical experts on the advisory committee, and they will be looking at how the program is running and making recommendations concerning that. But, no, they are not going to take the place of the clinical policy work group and be developing medical protocols.

DR. CEMBER: Sounds as if that were the case.

MR. THOMAS: Sorry.

MS. JURJI: Just to remind people that the thyroid disease study had an advisory board, as well, made up of various experts and a couple members of the public. Larry was on that committee -- is -- I guess -- you're the chair. So those advisory boards are pretty important. It just needs to get established because I know how long it takes the agencies to put these things together. So we're just trying to jump start things here.

MS. STEMBRIDGE: Any other discussion on this? Any objection to this? All right. We will go forward.

MS. JURJI: The next recommendation in some ways was covered by Louise, at least in part. We recommended that HHES send letters or documents to the CDC and the NAS Peer Review Committees expressing concerns, issues, and questions regarding HTDS and asking for a complete analysis of the study's strengths and weaknesses.

But we've already kind of covered what this committee is going to do vis a vis CDC, that we're going to send our comments to Louise's group, and we've got until -- what was it? May 1st to get those comments so everybody can read and that kind of thing. So I think that takes care of it.

What I would like to separate out in the recommendation is a letter to the National Academy of Science. And I think that should go out sooner, and I'm trying to think how to do it. Another recommendation was that we propose that representatives of the NAS peer review panel be invited, perhaps to our next meeting or invite the whole group to have a meeting in conjunction with one of our meetings so we could have a time to present our concerns to them.

I'm trying to find a way that we can interface with this National Academy of Science group either -- you know, a letter is one way, inviting one or two of their representatives to come to our meeting, next meeting, to hear from us. Or if they could all come to the Northwest, and we could present them -- I don't know how we do it. So I wanted to throw that out, but we need to deal with them pretty quickly because they are supposed to be doing all their work in 90 days, and they are already going.

DR. FISHER: Thank you, Lynn. My understanding is that this National Academy of Science review is an independent scientific review of the report, not one that -- you know, we have our opportunity

to influence the report in other ways. I'm wondering if we really want to do that, try to exert our influence on an independent scientific evaluation of this study. I would just question that approach, not that it's not important and not that the concerns aren't valid, but the National Academy of Science is a fairly distinguished body of people. I would hope that they would take this review seriously enough to do a solid, independent scientific analysis without the need for interference from this committee.

MS. JURJI: I just have to respond to that. In the first place, you know, because Louise and I went and already presented some materials to them, and at the end of these sessions, we did get the strong feeling they were extremely grateful to hear from the public. It's not so much about influencing them and telling them what to do, but just to inform them of what the public concerns are and the issues that are just floating out there that they may want to address. We are not telling them they have to do it, but it's kind of a "may" situation.

One thing, a letter could be sent to them asking if they would mind the HHES sending to them our concerns if that would be one way to address it, I suppose, is just to ask them if they are open for this. But I would be very surprised if they would say no. I think Louise would agree they got a lot out of it, I think. It helped them just kind of get started knowing what the public wanted answered.

MS. STEMBRIDGE: I have some cards up, but I want to insert here, if, in fact, their 90-day clock began February 3rd, it's over by the time we have our next meeting. So what we are going to have to respond to will be the substance of their review at the next meeting. I want to just make that remark and suggest that, perhaps, rather than belaboring this where clearly there is some difference of opinion around the table, and it will be after the fact by our next meeting, just take up the substance of the NAS review at our next meeting.

MS. JURJI: I guess my understanding is -- and I can't remember who told me this, whether it was one of the NAS people or whether it was a CDC person, but they said they never come in this 90 days, that most likely it will be a lot longer. In fact, one study review was given 90 days, and they took a year to do it. So we don't know what we will be up against. So I think there probably would be ample time. Frankly, that is the impression I get.

MR. CAMERON: I think Darrell's comments were well taken, that this is a prestigious organization. They have been charged with doing one thing. I don't think that it's appropriate for us to try to push scientific judgment in one way or another. The problem I had with Louise and Judy's report of their experience, there was the lack of transparency of what they are doing. The insistence on doing public business in private, although that is very typical of how scientists work and how peer review often works, I don't think it works very well when you're dealing with these very emotionally loaded questions in the sort of social controversy that we have to deal with here.

I think it would be very appropriate for them to visit us or us to visit them and to make their process, the thought that went into their final judgments much more transparent and to allow for interface between these two groups. I think it would be helpful for both groups.

DR. KAPLAN: I feel I need to just remind all of you that while they may be considered prestigious by some of you, there are many of you around this table who are better informed about Hanford issues than many people on that committee who are taking this on as a new study that they will review as outside reviewers, which gives them fresh eyes. I think that is very important. But, clearly, there are many issues related to dosimetry, the HEDR project and even the study itself that were not familiar to people on this committee. So I do not, in any way, want to negate the expertise that is at this

table that may, in fact, exceed that of some of the members of this NAS committee.

I think that, in terms of determining how we interface with them, I would remind people that if this is to be a public process, public comment is not pressure but public input. And that should they not be completed in three months, then should they -- I don't know at what intervals they meet, and perhaps Mike knows this, I don't know how frequently they meet, but as I commented, I encourage them to have a meeting in the Northwest. I think it would be perfectly appropriate to invite them to have a meeting in conjunction with one of ours. In fact, I think they would be very wise to publish their results at a meeting of HHES in the Northwest so that the perception is not that they are hiding in Atlanta, but they are publicly presenting their results and providing an opportunity for the public to interact with them and have a discussion. I'm not sure that it has to be an interim meeting; maybe that would be great. I certainly think their results ought to be here in the Northwest. I don't know what the process is that they use for that.

MS. MOSES: I would just like to add to what Louise has said. On these committees, when you have people reviewing anything and they have no real familiarity with the area of which they are reviewing, just the content of what they are reviewing, it's really a disservice to not really have some kind of specific on-point, on-target measure of some type, whether it's solicitation of letters to them in some way, shape, or form and getting on an agenda when they might meet to make a public comment.

I mean, they are not the be all, end all. I think if this committee has some way, shape, or form to make their concerns known to some of those people that are reviewing this lengthy document, then it just red tags what other people have already brought forward in their own mind. So I'm saying that to make their process even easier for them, I would think that they would want to know what the main areas of contention are so that they don't sit there themselves wondering, you know, "This is a study that relates to this area, I just wonder what the main contention was." Because you're getting a real strange read in the papers. You know, it's like, kind of like a schizophrenic way of reporting a very serious issue. I mean, it's a typical way of reporting something that, by the time things come out in the papers anywhere, it's a disservice to this committee in terms of how it's being reported. And if we can in any way work with the National Academy of Science in their review, then I think it's imperative that we try. It's not so much stepping on their toes and insulting their so-called credibility and intelligence, it's trying to work with them in the most effective manner that we can relating to this study.

DR. CEMBER: I thought that the study was pretty -- the objective was pretty plain. Is there a relationship between Hanford's activities and thyroid disease or is there not. Isn't that what the study is all about?

MS. STEMBRIDGE: No, Herman, that is not the question on the floor at the moment.

DR. CEMBER: No, no.

MS. MOSES: Are we discussing the question that they brought up or are we going to go into a whole different tangent?

DR. CEMBER: No, I'm following up on what you said, Rachel, about the concerns. I wasn't going to say anything because I thought the concern was, is there a relationship or isn't there, and that's what the study is all about, and that's what the National Academy of Science people are going to look at.

MS. STEMBRIDGE: I want to take a break in here because we had on our agenda that we would pause at 3 o'clock for public comment, and I want to make sure that if there is a member of the public who

would like to offer comment that we would provide an opportunity for them to do so. I'm not even sure that we actually have any members of the public left; we have worn them all out.

We're almost done. We're almost up for a break. There has been some evolution from the first proposal that Judy brought to us. What I have jotted down here is that the subcommittee would send a letter to the chair of the NAS panel, advise them that formal subcommittee comments will be forthcoming and invite them, reiterate Louise's invitation to hold a public meeting in the Northwest and, perhaps, that they would even release their review document in conjunction with a meeting of the health effects subcommittee and provide them with dates and geographic locations of our meetings for their consideration. Does that get us where we need to go? Objections to that?

MS. JURJI: It does. You're so good.

MS. STEMBRIDGE: Okay. Done deal. Now, is there another one, Judy?

MS. JURJI: Oh, yeah, last one, real quick. This will go fast. Trisha Pritikin, before she left, she didn't have a chance to attend our whole meeting of PHAWG. She was very concerned that we were to have Owen Hoffman give a presentation -- and we still need to do that and want to do that, our group would like to make one of the recommendations that we invite Owen Hoffman to present at the next meeting. And he will be presenting, presumably, the issues having to do with the errors at HEDR and the issues having to do with combined doses of combined Hanford and Nevada Test Site doses.

So I just wondered if everybody in the group would like to hear from him. Those of us who were at the National Academy of Science meeting in Atlanta heard Owen speak to that group by speaker phone. They patched him in. It was just some very fascinating information that he had, and it generated a lot of interesting questions. So I highly recommend it.

MS. STEMBRIDGE: This was also the presentation that he gave in the evening at the Salt Lake meeting as well. The question is whether we want to have him come out and give that full presentation to us.

MS. JURJI: He would do it pro bono as I understand it, without charge.

MS. NESARY: I would be interested. I missed Salt Lake.

MS. MOSES: I think it would be a good presentation for the people who are really unfamiliar with this area to hear from someone who is a scientist that has really studied in depth these issues.

MS. STEMBRIDGE: Any objections to this? All right. We will note that as a recommendation, and I will put it on the future agenda item list.

MS. JURJI: I guess under agenda items for next meeting, we obviously think further discussion of HTDS, presentation by Owen Hoffman, update for funding on medical monitoring and the Iodine Disease Subregistry, which is probably normally on the agenda anyway. I'm not sure.

Ideally if we could get -- deal with the National Academy of Science, either have a guest from the National Academy of Science to hear our concerns or work on a document that would go to them. Anyway, just not to drop that issue.

DR. FISHER: Following on that very excellent recommendation, what happened -- I'm sorry, did

we have a suggestion carry over from yesterday's workshop -- I'll ask this to Louise -- that we hear from an advocate for the Hanford Thyroid Disease Study, someone who can speak to the strong aspects of this at that next meeting also?

DR. KAPLAN: We didn't. I didn't think -- I don't recall that we came to -- that we were going to propose that as a recommendation. Clearly, if someone on this committee wants to advocate for it, clearly someone -- whoever reviews it and feels that it has no problems can clearly do that. I don't know how to go about identifying an advocate for it.

DR. FISHER: What I would first do is I would look to the study principal investigator and coinvestigators. Of course, I'm new, I wasn't here. I don't know if they stood before this committee and explained their study. They were on the speaker phone, I know.

MS. STEMBRIDGE: That was CDC.

DR. KAPLAN: That was Paul Garbe who works for radiation studies in CDC.

DR. FISHER: I heard them on the announcement of January 28th or something like that. But I'm wondering if we couldn't give equal time to the PI or one of his two coprincipal investigators to defend this study and respond to questions from the committee, because I felt that element was missing from yesterday's discussion. I felt a little bit uncomfortable that some aspects of the study were being criticized without having information from the people who worked 10 years on it, and to say something about the criticism.

MS. JURJI: I wondered why we didn't have the thyroid study team here to present. I just assumed they would be here.

MS. STEMBRIDGE: I understand from Mike that they were asked, but they had a schedule conflict. Now, we can editorialize about that because our meeting dates were set in December, but be that as it may, they were not here.

MS. MOSES: Well, we did have the phone call. Wasn't that the person who was one of the principal investigators?

MS. STEMBRIDGE: He was not one of the investigators.

MS. MOSES: I would like to make a comment on that presentation.

MS. STEMBRIDGE: Rachel, I am going to ask you to hold. D.J. has his card up, and then I will come to you.

MR. JIN: I don't know, we learned that the people who conducted the study was invited to this meeting, but they didn't take the opportunity to defend their studies.

MS. STEMBRIDGE: I'm so glad Mike walked back through the door. The topic under discussion is, why there was no one from Fred Hutchinson here, why there was no member of the investigation team or even hooked in by conference call during yesterday's agenda item about HTDS.

MR. DONNELLY: I believe they are in Russia.

DR. KAPLAN: All four of them?

MR. DONNELLY: Well, I don't know about all four of them. Scott and Ken were there, and there was a conflict in scheduling with this meeting and what they had already scheduled, so that is why.

MS. STEMBRIDGE: All right. You know what we can do, I'm going to make a suggestion that on my running list of possible future agenda items, I simply note this, we will come back and discuss this more thoroughly on our final agenda item about housekeeping business, next meeting's agenda, et cetera. I think it's time for a quick break, and if Judy is finished then we can come back and take that suggestion up then.

(Recess.)

MS. STEMBRIDGE: All right, folks, if we could take our seats, we're on the home stretch here. The next item on the agenda has to do with issues related to subcommittee membership. I put around at everyone's name tags yesterday morning some draft nominee questions for the revised nomination format. You may recall at our last meeting there was discussion about the fact that the materials that folks who wished to be considered for membership on this subcommittee, the materials that they submitted were not really illuminating or helpful with respect to their personalities. There was no standard form, and it left much to be desired.

So I have a few extra copies of what I passed around if folks did not have them and lost them or did not get them to glance at before this discussion. Does anybody need a copy of this? These questions would be appended into the nomination packet that would go out to everyone who indicated an interest in applying to this subcommittee. What I would like to hear from all of you is if there is a question on this list that you feel is inappropriate or if there is a question that should have been included that was overlooked. Linda.

MS. KEIR: It seemed like there was an inconsistency -- I'm just referring to the action item list from December of 1998 -- in one spot we asked for a fresh pool and in another spot it says apply again in the future for people that were turned down. I don't have any feelings one way or the other, but I'm wondering, can we clarify if we want people who were turned down and applied previously, should we wish them to reapply or how does that work?

MS. STEMBRIDGE: What is going to happen from here on out that everyone who wishes to be considered will need to reapply. All the paperwork from way back when was pulled forward and reconsidered and recycled so it will be pulled together, a fresh pool, although, certainly, if someone was considered and not chosen, they would be welcome to reapply for consideration in the next round.

MS. KEIR: So everyone applies under the same guidelines is the objective of that?

MS. STEMBRIDGE: Yes, in fact, subcommittee members whose terms are expiring at the end of December and who wish to be considered for reappointment will also need to reapply using all this same material. Marcia.

MS. WOOD: Thank you. Well, let's see. I went ahead and submitted my reapplication already

without the benefit of these questions. Do you want me to send an addendum to the questions?

MS. STEMBRIDGE: Yes.

Any other comments, questions, suggestions on this? All right. If there are none, we will just forward these as a recommendation to the agency. Now, I have been, during the break, advised by Judy that there was one more recommendation from the PHAWG that she forgot to put out for plenary consideration, so I would like to give her a few minutes to go over that so we can finish out their report.

MS. JURJI: I am very sorry about that. I was reminded during the break -- that is the trouble, there were so many details to get down. This recommendation had to do with the National Academy of Science not having an independent thyroid expert on their panel that when -- as I reported, when we got back there, we discovered that they had a thyroid consultant, but he was a person who was on the thyroid advisory board and helped, in essence, design this study and give input to the study, so he has a vested interest already in this study, so we wanted to, perhaps, send a letter, to rephrase this recommendation, would be that in the letter that is sent to the National Academy of Science stating that we're interested in their work and that we wanted to give input, that we would also have a recommendation to them that they bring in independent outside thyroid expertise. They could either do that by bringing in more consultants or they could add a panel member. That is their business how they want to do it, but we felt that that was important.

So that is kind of the recommendation. When Louise and I we were asking questions about thyroid statistics, dosimetry, and so forth they really didn't have much information at their fingertips. That doesn't mean they can go on and get it, but I think they would have really benefitted.

MS. KEIR: Can we put that in a form of a motion or action item, however is appropriate?

MS. STEMBRIDGE: I think Judy's suggestion was that this be included in the letter that goes to NAS, a suggestion that when they are undertaking their deliberation that they add some outside thyroid expertise to assist them.

Any other discussion about this action item? Any objections to including this in the NAS letter? All right. There are two other remaining issues to discuss under subcommittee membership. One is that Leslie is doing her level best to put a full head of steam behind this nomination and selection process so that, in fact, as terms are expiring at the end of this calendar year appointments are being made and that we do not go into another extended period of limbo. One of things that she needs to have very quickly are suggestions of people who might be independent observers when the agencies sit down to consider applicants and make their choices. So I want to urge people, if you have suggestions of names that you believe would be good independent observers to the process of the agencies sifting through this information and making their selections for a new slate, please give them to Leslie as quickly as you can.

MS. CAMPBELL: Remembering that these individuals cannot be members or people that may be applying, literally. And you remember who we had last time Ron Katherine, Marie Boutee, and Warren Bishop, all individuals that were familiar with the committee and the purpose but not involved in membership on the committee. But I need that real soon.

MS. STEMBRIDGE: The sooner the better.

MS. NESARY: Is it not appropriate to continue with those folks?

MS. CAMPBELL: That can be a recommendation. I'm saying if there are other people that you would like for us to consider, please let me know.

MS. STEMBRIDGE: I think it's a good idea to have few extras in the pool. I know many of us who know Marie are hoping that she will actually apply to be appointed to the subcommittee. So schedule conflicts, advocacy conflicts, we need a robust pool for them to choose from.

The other issue is that we have paused at least every two years to consider whether or not we are appropriately balanced and representative as a subcommittee. What I would like to do is ask folks to just reflect on this question and think about it, and we will discuss it at our May meeting. There is always a balance between who else we need at the table and as humongously big as this table is getting, but that is something that I believe is incumbent upon us to reflect upon that question and be thoughtful in its determination, so that is something that we will talk about at the next meeting.

Is there anything else about membership that needs to be brought up?

MS. CAMPBELL: I just want to remind everybody about time lines once again. We went through this before; it's at least a six-month process. That is pushing it. So in order to have people appointed in time for the end of this year, we really need to be having that nomination panel first part of June.

So we're on a very short timeline. If I have a nomination panel the first part of June that means before that, I have to have people applying, so we're probably really looking at applications and outreach for the applications before your next meeting. So if there are some of you who want to work with me on that outreach, Marlene, please think about this, and we have some things we've done in the past. We have some other ideas that some of you may have, particularly those of you who have been working on the outreach committee. And although we didn't have time to discuss that today, we really do need to move forward on the outreach for applicants. And probably looking at maybe April or very early May for advising.

DR. KAPLAN: Is there a requirement that a certain number of people whose terms are expiring must go off the committee?

MS. CAMPBELL: No, but they have to reapply, then the panel has to review the pool of applicants in considering -- we have X number of slots to be retired, whose names will go in those slots the next time.

DR. KAPLAN: The reason I asked that is because of the fact that we didn't meet in July and didn't meet again until December. For many people who came on the committee last year, this is really the first full meeting that people have been to.

MS. CAMPBELL: I fully understand that.

DR. KAPLAN: I'm only saying this to encourage people who are currently on the committee with expiring terms to seriously consider reapplying so we don't have to have this start-up process all over again in January of next year, so I would highly encourage members who would like to continue to do so.

MS. MOSES: Lynne, I need to add something to what Louise just said. I find it objectionable that we haven't been able to meet, but not our fault. We have been denied the opportunity to meet two meetings, and we people that are rotating off just because of this two-year requirement -- I mean, I don't

think the two-year requirement should count when you are not even meeting. It doesn't make any sense to have a requirement for some time of period that lapses where nothing is going on. It seems like it's working against the people that are on here. If that continues to be the case, then I think that you're always going to have times where there is a lapse in between finding the money and getting the resources available for the committee. I think it's a farce to hold people accountable two years when practically three-fourths of one year or maybe close to one year you didn't meet.

MS. STEMBRIDGE: I can't speak for the agency, but if I had to put money on the table about this question, my hunch is that every person with an expiring term who wishes to be reapplied likely will be reapplied. We have had a great deal of turmoil on the membership of this committee. And I'm sure the agency is, frankly, loath to revisit that. I suspect that everybody who wants to be reupped will be given the highest consideration for reappointment. It's purely my personal opinion, but I think if you want to be here, you will probably still be here.

All right. Let us move on to our final subcommittee business. The first thing I want to do is provide an opportunity for Buck Cameron to report back to us about the national subcommittee evaluation process. As you may know from our December meeting, Buck sort of volunteered, was sort of dragged into serving as our reconnaissance scout to keep an eye on this process. And I want to give him an opportunity to report back to us about that.

MS. KEIR: I'm just concerned because I know at least two or three people around the table have to leave at 4, that we get agenda items for the next meeting.

MS. STEMBRIDGE: We shall do that after this. Buck only needs about five minutes.

MR. CAMERON: I didn't think there was a great deal of interest in evaluation when we had our meeting last time. I do think it's important. However, after participating in a couple of teleconferences, my opinion is reinforced that the way it's being proposed is not the way we should do it. I do think we need an evaluation which looks at the entire process including our state agency participants, including the agencies that we report to and that we interface with. And I guess I have been kind of a broken record on these conference calls, but I think the baseline question that has to be answered -- the ones that Louise has asked so many times, which is, Why are we here? What are we supposed to do? And when do we know when we've done it? Unless we can answer those questions effectively to a way that we all agree with, I don't think any of the other questions really matter. I don't think the methodology that is being proposed of a participatory research model, which is very great in other situations, is appropriate here.

I think we need to have a very experienced, very competent research, and not to slight any of the people involved from Atlanta, but I think that we need somebody with a very high profile who can ask hard questions and insist on getting the answers to the point where we can all agree to. And that is what I would propose, and that we continue to have lot of input into how the evaluation is done but not as the doer of the evaluation.

MS. STEMBRIDGE: Other comments or questions on this?

MS. MOSES: I would like to comment that I think Buck's recommendation, or whatever it is, is a very good one because you can't really have an agency do an evaluation of a process where they are going to be part of the evaluation process themselves, where they themselves need to be evaluated, so do you need someone from the outside coming in and evaluating the entire process. Because if you leave it up to an agency, then you're not going to have their process evaluated, only the subcommittee process.

MS. STEMBRIDGE: Anything else on this?

Buck, we will trust you to keep us apprised and hope that they experience some growth and development.

MR. CAMERON: Well, the way this is progressing is there is a series of conference calls which are proceeding. I don't feel that I should continue to participate in those conference calls if we do agree that that is not the model that we want to follow. It would be pointless.

MS. STEMBRIDGE: Well, I think there was certainly a great deal of concern of this subcommittee that the model, as it was described in December, was just not something that we were interested in participating in. I think that we were hoping there was some indication that it was going to be modified or crafted based on these initial telephone calls. And if, in fact, that is not happening, then it seems sort of brutal to make you keep being on the conference calls when they are just driving ahead.

MR. CAMERON: I think to some extent participation gives a message of agreement. I don't want to give that message if that is not what this committee is saying.

MS. STEMBRIDGE: How do folks feel about this? Is this something that we really want to keep?

MS. MOSES: I think if you don't stop the evaluation process that is going on you -- if you're going to allow the process to continue then I guess the issue is moot, we don't have anything to discuss. If you don't allow the process to continue then we're not going to be involved. And we can start a new process that integrates a more complete way of assessing the subcommittee process.

MR. CAMERON: I would like to propose for consideration and, perhaps, vote of this committee that we inform the agency that we don't want to participate in the current model of evaluation, that we do want to have an evaluation, and that we would like to describe how that evaluation -- how we would like to see that evaluation be done.

MS. STEMBRIDGE: How about that? That sounds good. All right.

DR. CEMBER: Is that a recommendation from the committee?

MS. STEMBRIDGE: That is the recommendation before us. We want to tell the agencies, "The way you're going at this, we don't want to do that." We would like to have a conversation, "We're interested in an evaluation. Our vision of it is very different than what you are pursuing. We would like to have a conversation about how we can accommodate this." All right.

MS. CHENET-LEONARD: If it is all feasible and if there is an evaluation process that does meet the subcommittee's needs, I just wondered if it made sense for one of the public health agency liaisons to participate, as well, because I think it is a very important exercise to see how groups and advisory committees are evaluated to do the work that they are supposed to do. I think it would be useful for a public health agency to participate on that. I don't know how the committee feels about that, but I stated that in Salt Lake, and she had forgotten that that was something that was sort of out there floating around.

MS. STEMBRIDGE: I certainly can't imagine that this group would come up with an evaluation

process that did not include the three state health agencies and all of the tribes and be a mutual evaluation back and forth and an evaluation of us and the agencies by the communities that we serve.

All right. The remaining items that we need to discuss -- and Linda's request, we will take up now, next, agenda items for our meeting in May. I know that Armando has offered to arrange a tour at the Hanford site for HAM Tech, Buck has included a visit to their office in Pasco, but since our next meeting is not going to be in the Tri-Cities, what I'd like to propose is that be held until November when we are back here and those logistical details can be worked out in conjunction with that meeting.

MR. TRENTI: I think it would be have to be decided before the next meeting so we can make the arrangements like ahead of time so we need a little preparation for it.

MS. STEMBRIDGE: For the people to tour in November?

MR. TRENTI: Tour in November, yes.

DR. KAPLAN: Could we decide in May?

MR. TRENTI: Maybe the July meeting would be more preferable.

MS. STEMBRIDGE: Are people interested in doing a tour? Let's see a quick show of hands.

DR. KAPLAN: It depends on the time.

MR. TRENTI: That's what we're talking about, maybe Tuesday afternoon before the session. I don't know, whatever fits the committee the best.

MS. STEMBRIDGE: What I propose to do is put this as an agenda item for discussion in July, and then we can come to a resolution about that then.

All right. The big outstanding agenda item for next time that we truncated discussion on was having an investigator from Fred Hutchinson come and make a presentation to this committee.

MS. CAMPBELL: Can we back up a minute on where we are going to have the meeting first?

MS. STEMBRIDGE: I think Linda was concerned to get the agenda items nailed down.

MS. CAMPBELL: But I think the location is going to affect some of the agenda items.

I'm going to be very quick. At the last meeting, the Hanford Health Effects Subcommittee asked that we have a meeting this year at a tribal reservation. And we decided that we would do it at the May meeting. The dates for the May meeting are the 12th through the 14th. You have a calendar reflecting that. And Marilyn and I have been investigating different locations, looking at both proximity to an airport, hotel rooms available and meeting-room space available.

And our recommendation is that we have the next meeting at the Umatilla Reservation. They have all of the things that I have just mentioned in place, a beautiful new cultural center with a museum in it with a lot of information that, I think, this subcommittee will really benefit from. Their museum is wonderful and excellent meeting-room space, restaurants, everything right there. So I wanted to see if that was agreeable. Then we can go from there on agenda items if you don't mind. Is there any discussion on that?

MS. STEMBRIDGE: It looks like it's a go.

MS. CAMPBELL: In Pendleton.

MS. KEIR: There is something that I would very much like to have on the agenda for the next meeting before the plenary, and I apologize for speaking of it at an improper time, early, but I'm very, very concerned about the conflict of interest issue, which has been raised in other contexts.

I've just received word that the Radiological Assessment Corporation under John Till, who, in fact, put out -- helped to formulate the guidelines for the RFP for task completion and other data gathering at numerous sites in the U.S. -- well, first of all Hanford and also INEEL. Savannah River and Fernald now has RAC gathering data at Chernobyl.

I'm very, very concerned about this. I think we need to discuss this, and we need to see what kind of money is going out, and we need to see -- get some handle on how the data gathering, whether it's being done in a competitive fashion, whether there are other people that are able to do it. Data is the basis of everything that we do, whether it be studies or whatever we're doing. If the data is not properly and consistently gathered, these poor people, they are lost. We must, please, please, put that on the agenda before the plenary.

MS. STEMBRIDGE: How do other folks feel about putting this on the May agenda? I will tell you our general process has been that topics come up through the work group by and large.

DR. KAPLAN: I'm not clear what the issue is, quite honestly. I don't know what the conflict of interest is. I don't understand the conflict of interest. Who are they being paid by and why is there a conflict?

MS. KEIR: I understand that Mike Donnelly, at my request, got figures on what RAC has been paid so far. And he's very willing to give us these figures. I just learned, because it came over the Internet on the 18th of this month, that RAC, which I and many other people feel did not do an adequate and consistent job of gathering data for HEDR and then subsequently -- well, John Till, who formulated RAC, was in charge of the oversight group, TSP, that oversaw HEDR, getting the data and interpreting it from Battelle using their model.

The point is, we have the same outfit involving the same people formulating guidelines and then becoming a private corporation and succeeding in getting contracts, not just across our country, but across the world. And, certainly, no affected citizen from Chernobyl is going to be able to have any input in that. I'm thinking of downwinders around the world. Can't we discuss this before the plenary? It's not just the money. It is also how are guidelines are put out. How competitive is it? Does anyone else have a chance? John Till has a Q-clearance for classified documents. Are other people that have such a clearance able to look at data? This is what I wish to be put on the agenda for the whole plenary to hear about and discuss and advise.

MS. STEMBRIDGE: Linda, I have to say I understand your concerns, and I know they are shared by others broadly, but I also have to say that I don't think that this topic, as you are presenting it, is germane to the work of this subcommittee.

MS. KEIR: Who and where is it ever going to come up in a public forum with people that are concerned about an issue and see and hear the testimony of people suffering? I don't know. If not us, who, and if not now or at the next meeting, when?

MS. STEMBRIDGE: All I can tell you, Linda, is that I don't think that this subcommittee is going to resolve the issues of dose reconstruction at Chernobyl, grievous though they may be.

MS. KEIR: That is not the issue. The issue is conflict of interest, taxpayers' money, and guidelines of having people involved in setting guidelines and then being paid -- I'm sorry, to me it seems like such an obviously apparent conflict of interest. This issue has come up over and over again. Can we hear other people's opinions?

MS. STEMBRIDGE: You bet. Ricardo, Buck, Herman.

MR. GARCIA: I would simply like to say that I want to support Linda in her request that it be on the agenda. I would like to know more about it. The whole notion of conflict of interest is interesting, and I would like to know more.

MR. CAMERON: I think the first question that Linda raised was knowing how much in contract money John Till was receiving, and I understand that information is available. I think that is a reasonable request for a citizen to make.

I would also like to say that it certainly has been my opinion that John Till has been an ethical and effective person doing the work that he's done, you know. For one to build up an expertise and be able to do that efficiently, I don't think is a conflict of interest.

DR. CEMBER: I concur with Buck that John Till, I know him quite well, is honorable and ethical. But I will also say there appears to be a conflict of interest if he's the one who is writing the conditions for granting the contract and then applying for the contract. So whether he's really competing, I don't really know, but there certainly is an apparent conflict of interest there.

I think the other thing that Linda was concerned about was -- or did I not get this correct that if he's out in Chernobyl gathering data there, how will he be able to devote his time to gathering data here? Is that correct, Linda?

MS. STEMBRIDGE: Mike. ?

MR. DONNELLY: First of all, I guess I want to understand -- I want to make sure that I'm understanding when you talk about John Till writing guidelines. John Till does not write the RFP. No contractor writes the RFP. When CDC solicits work, CDC writes the scope of work and says this is the work that we want done. That is the first point.

All of the work that John Till is doing for CDC he has won through competition. That is the second point, I guess. That may be an issue. I can't speak to the work in Chernobyl that he's doing because I don't know what that is, Linda.

In terms of the question that you asked me at the last meeting, in terms of the work that John is doing under the task order contract, which he competed for, the amount of money that we have provided him thus far is about \$1.7 million, about 1 million of that is for work at INEEL, about 700,000 was work related to Hanford. That included workshops that were conducted as part of follow-up to the TSP recommendations.

John also does work for us at Savannah River. He did work at Fernald. I don't have the numbers for that, but I can assure you the work that John's company is doing for CDC is done under a competitive process.

DR. KAPLAN: I just have two questions. Okay. One is, can you tell us how many months, or perhaps it was weeks or days, between the time when John Till stepped down as the oversight chair, TSP HEDR, and the time when he -- I don't know, I don't recall if it was when he formed the private corporation, RAC, or when RAC bid on the contract. What was the time span? That is one.

MR. DONNELLY: First of all, when John was the chair of the TSP he had his own company. He already had that. And John was on the TSP before CDC ever got around.

MS. KEIR: I know that.

MR. DONNELLY: I can't tell you how long John Till's company has been around. I don't know the answer to that. Off the top of my head, I believe that the TSP functioned without John for at least another year, year and a year when Mary Lou Blasik (phonetic) was the chair. Following John's resignation as the chair -- I wish -- Del has already left -- the task order contract that we have was put in place in about 1995. That was, as I recall, after John had left, but it didn't make any difference because John's company competed along with other companies for award of that task order contract.

DR. KAPLAN: The fact that he got all four of the sites including us which met at Salt Lake City -- how many people competed or how many other groups competed for this?

MS. STEMBRIDGE: Excuse me. I want to interrupt this. It is now 4:15. We are officially without a quorum. The question before this group is, whether or not we want to devote plenary time to the pursuit of answering this question. We are not about answering those questions at this time. So I'm going take Rachel and Wilber, and then I will come back to Herman. I'm asking people to speak, whether or not you want time on the next agenda to discuss John Till and his corporation and the work that he does for CDC.

DR. KAPLAN: To the fact that he got all of these contracts for every site.

MS. MOSES: I would.

MS. STEMBRIDGE: Wilber?

MR. SLOCKISH: I would like it too.

MS. STEMBRIDGE: All right. Herman.

DR. CEMBER: I would not, because Mike Donnelly just answered the questions and there really is no conflict of interest, just John Till happens to have one of the contracts and he's a good guy. I mean, professionally, he does good work, so he got it.

MS. MOSES: We have people that aren't here, so we need to have this discussion in front of the whole group, and that's the plenary.

MS. STEMBRIDGE: That means it won't happen at the next meeting. It would be informative to me if I could just have a show of hands around the table for May who is interested and who is not, who would like to see an hour on the agenda in May to discuss it. It will be an hour. We couldn't even get

through this in less than 20 minutes.

Those who would decidedly not want to devote plenary time to this, raise your hand. That is informative. Thank you.

The other things that I have on my agenda for the May, Owen Hoffman's presentation?

MR. DONNELLY: Lynne, I'm not sure if I heard this is going to be on May agenda, but if it is going to be on the May agenda, I need much more specific guidelines if you want CDC to talk about it because I don't know what else we can say.

MS. STEMBRIDGE: I guess I would ask you to you have a conversation with Linda since she has the clearest idea of what this should be.

MR. DONNELLY: I'm more interested in hearing from the group with Linda included in that because a number of people, apparently, want this discussion. If would you like us to describe the process by which contracts are awarded, we can do that.

MS. MOSES: Perhaps even summarize it, how you awarded it at each of these sites and how it came to be that John Till ended up with each of these contracts.

MR. DONNELLY: By the same process and by the fact --

MS. MOSES: That is all you need to do, Mike --

MR. DONNELLY: I just did it.

MS. MOSES: -- at the plenary in May when we have members all here.

MS. STEMBRIDGE: The other item that we have not yet reached any kind of discussion or clarity on is whether to invite investigators from Fred Hutchinson to come before the plenary and present what they believe to be the strength of their study in person if their calendar -- Judy.

MS. JURJI: I've heard the study presented a couple times now myself. I can tell you that the way to approach it, would not be to just have them do their presentation. You are not going to learn anything more than you would learn by just looking at the executive summary. They will assert that they have statistical power, that the study is good, that kind of thing.

A better way to approach it would be to have very specific concerns and questions that you want to ask them. In other words, cut to the chase. Don't have them just give their presentation, you will just hear this long thing with lots of slides and stuff, that would just be a waste of time. So my feeling is if they are going to come, really be prepared to ask them some serious questions and concerns and have them discuss why they think the study was good in that respect or not good or whatever, the strengths and weaknesses. Don't just have them do another presentation. It's pretty much the same material that Mike Donnelly and Paul Garbe already presented. I've heard it both from Ken Kopecky and Scott Davis, and you're not going to get anything different unless you have real good questions to ask them.

MS. MOSES: I totally agree. We can have them in person, read their slides just as well as anybody else, but I think more than that, I think we should have them sit at a table where we can question

-- sit somewhere -- so that we have all of them there, and we can ask questions to them because I totally agree, I would rather not waste another hour or whatever it is to go through the same slides. I'm sure by then we will have some questions that we really can funnel through and get specific answers on, I can't impress upon the importance of having the principal investigator here and have them in person.

MS. STEMBRIDGE: I would like to propose for your consideration, perhaps, inviting them to our July meeting after we, as a subcommittee, have developed our questions and comments and concerns and have them come and address specifically the things that we have put together, send them -- when we forward our comments to the NAS, send also a copy to the principal investigators and with that a cover letter that invites them to our July meeting specifically to speak to these issues. It seems to me that that might be the most expeditious use of their time and get us down the road to where we want to go, which is, how do we make this be better where it needs to be better? How do folks feel about that?

MS. JURJI: The thing about that is that letter should probably go out at least telling them that is what we're hoping for so they can get it on the agenda. Hopefully, they won't be in Russia next time.

MS. MOSES: Lynne, you don't think they would be prepared to come to the May meeting to answer questions that we might have between now and May?

MS. STEMBRIDGE: We won't be ready.

MS. MOSES: The reports are going to be from Mike Donnelly. If you put your name on a list you will get the report. It depends on how long you need to read it. We have March, April, and May.

MS. JURJI: Maybe we could give them a choice of May or the July meeting.

MS. STEMBRIDGE: My concern is the process that we agree to is that our comments will go to the Studies Work Group by the 1st of May. They would synthesize them and present to us for consideration in plenary what our collective comments would be. Those won't be finalized until the May meeting.

DR. FISHER: I understand what you're saying, but for me it would be more helpful to have them appear as soon as possible. Also I will have this report read by May 1st because I'm asked to put in comments. And it will be fresh on my mind in May if I've dealt with it up to May 1st. So my own preference would be that they would meet with us as soon as possible while it's still very fresh after my review of that document.

MS. STEMBRIDGE: What do the rest of you think? I understand that we are just sort of all sitting here talking and we are not really a subcommittee. We don't have a quorum. This is just discussion to help inform Leslie.

MS. MOSES: I would rather have it sooner than later.

MS. STEMBRIDGE: Why don't we have a show of hands, people who want to see them in May, hands in the air.

MS. STEMBRIDGE: All right, in May. The other thing, it seems from a very long time ago, Jo

Marie Tessman said that Stewart Harris had developed a Native American risk scenario and as long as we are going to be there, I think that we should have time on the agenda to hear that.

MS. TESSMAN: Right. Because we had that scheduled for the July meeting that was supposed to take place in Tacoma or wherever we were going over there and that meeting was canceled. I had made arrangements with Stewart and Dr. Harris to make their presentation at that time. And it is a Native American risk scenario which ties in for everybody that has to deal with risk assessments.

Another thing to put out on the table, though, we have such a short amount of time in these meetings, is to take advantage of the fact that because we are on the reservation, I have several people including myself that do culture sensitivity presentations so people can get those non-Indian members that are on the committee and/or those that are not familiar with our cultures can understand our world view perspective so that is an option as well.

MS. STEMBRIDGE: Can you give me approximate time frames on these?

MS. TESSMAN: It depends on how much time you've got. I've got -- Armondo and myself do the presentations. We've done that with the Department of Defense and have taken two hours. Louie Dick can do it in two hours. Stewart and Barbara would probably take an hour, just to do the presentation and then to field questions from those that are more knowledgeable on risk assessment.

So the cultural sensitivity one is kind of open for suggestion. Because we are at the museum there are after hours that are available for folks to tour the museum which is going to give that kind of perspective as well.

MS. STEMBRIDGE: Those are two things that have been on our list for a while.

MR. CAMERON: I would just like to ask for as much time as possible for the cultural sensitivity. I am not at all confident that I could become sensitive in two hours.

MS. STEMBRIDGE: We will have to have some plenary time for discussion about the balance and diversity. At least a beginning conversation of how we're going to arrive at what we want for an evaluation model. And we're going to start having a discussion about who is going to take over as chair of this subcommittee. I have heard Jude's name in conversation in multiple groups of people, and she is not here with us to even --

MS. KEIR: That is a good time to nominate her.

MS. STEMBRIDGE: I just don't think we want to go there. We may never see her if we do that. I would like to ask each of you to consider this. When this subcommittee started, this was a very, very difficult position. There was a great deal of time that I put in on this because this was all brand new and the wrinkles weren't worked out in Atlanta and the wrinkles weren't worked out with me. We were all just feeling our way. This is a much, much smoother job now. I would say that I spend, probably, an hour a week on this. And they pay for my phone calls.

But at any rate what I'm hoping is that folks can reflect on this and think about it and talk among themselves. In the ideal world, which is where I would like to be, it would be good if we could come to some general recommendation about who would succeed me as chair so we could forward that recommendation to the agency so the paperwork could start and so that we have an opportunity for one meeting to have some overlap. This can be discussed at the May meeting, a further discussion on this.

MS. JURJI: I certainly think that Jude and Louise Kaplan and Glyn Caldwell are people that have come to my mind ever since I, in panic, learned that you're leaving. I thought who could possibly step in, and those three names have jumped in my mind.

MS. STEMBRIDGE: The other thing that you should all be aware -- many of you know this already, is that the conference at Pacific University that we were hoping to meet in conjunction with, PLU is just not doing that conference this year. That was the sole reason for going to Tacoma. So having not been in Spokane since the second meeting of this subcommittee, we have not been there for a very, very long time, I would like to make a pitch that the July meeting be in Spokane and the dates that we have -- the July dates are not as solid. We had some flex built into our July dates trying to accommodate ourselves to the PLU conference. The dates currently on the calendar for that meeting are July 21st through 23rd for Spokane.

MS. CAMPBELL: The alternate week that we had been considering was the last week, and we were floating that schedule based upon when we thought that PLU conference was going to be occurring. So I guess we're asking for people to look a little bit at which week would be better. We can maybe make a final decision in May.

DR. CEMBER: Right now it's the 21st --

MS. CAMPBELL: The 21st through the 23rd. You have a little calendar here that was in your packet. But originally we had it down for the 28th through the 30th. We moved it because we thought the PLU had been moved, then it turned out it was canceled.

MS. STEMBRIDGE: I think what may have to happen is that Marilyn is going to have to see what properties are available in Spokane. I guess I would just ask you if it's possible to hold tentatively Wednesday, Thursday, Friday of both those weeks and Marilyn will get to work on this, I'm hopeful, very soon. And notify us all when she can find space, which week we need to hold on to tight, and which week we can let go. I'm concerned this isn't a very long lead time in terms of finding properties, especially in Spokane in the summer.

MS. CAMPBELL: Also, we had placed these meetings very close together to fit the PLU thing. I know August is a bad month, particularly since this lady is resigning August 1st, we want the meetings to occur in July.

We are willing to go ahead and use the July dates, but I think you do need to consider which week. And we will work first on accommodations and see what we can bring back at the May meeting.

Since Marilyn's name has been mentioned, I would like to bring up one other issue. I know we don't have everyone here, but for those who are, the issue is travel. And the arrangements that Marilyn is making for you on travel. She has an enormous task setting up travel for everyone. I really want to encourage each of you when you get that letter from us saying here is where we will have the meeting and you need to call the hotel by this date and make your reservation and you need to work with Marilyn on your logistics for travel whether you're flying or driving, do it right away. It takes, generally, about two weeks for us to get travel submitted, approved, and get your tickets. A minimum of two weeks. So that means when you come back to us four days before a meeting and say, oh, I need to change my travel, we have to literally cash in all of our little honors we have with anybody, our debts. Then we're getting this enormous debt pile right now, and we getting a lot of pressure to stop doing this.

I know that sometimes things happen and you have to make changes. Please help Marilyn as

much as you can with getting back to her when she has a first attempt at what travel you may take saying this is okay or not, get your hotel reservations made, just following the little plan that she hands out on this one-pager on what you need to do, and as much as you can keep with it. Then, of course, the other thing is your voucher and return of money is up to you. The sooner you get it turned in, the sooner you get your money back.

I know that for some people, for one reason or another, you turn them in really late and then the question is, why is it taking ATSDR so long to get my money to me? It's a two-way street, please work with us. Thank you.

MS. STEMBRIDGE: Anything else for the good of the order?

MR. KENNE: On a personal note, I appreciate the professionalism that goes into setting up the meeting rooms here and taking care of my travel, my reimbursements, and everything that goes with that. And I would like to thank Marilyn Palmer for all her efforts that she is doing for that. That is a big job.

MS. STEMBRIDGE: Anything else? Then I think we're not even officially in session, but we're dismissed.

(Meeting concluded at 4:30 p.m.)

STATE OF IDAHO

County of Ada

I, NANCY SCHWARTZ, a Notary Public in and for the State of Idaho, do hereby certify:

That said hearing was taken down by me in shorthand at the time and place therein named and thereafter reduced to computer type, and that the foregoing transcript contains a true and correct record of the said hearing, all done to the best of my skill and ability.

I further certify that I have no interest in the event of the action.

WITNESS my hand and seal this 4th day of April, 1999.

Nancy Schwartz, Notary
Public in and for the
State of Idaho

My commission expires:
September 28, 1999